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State of California
The Resources Agency
DEPARTMENT OF FISH AND GAME

MARINE RECREATIONAL FISHERIES STATISTICS SURVEY
FOR NORTHERN AND CENTRAL CALIFORNIA,
QUARTERLY REPORT NO. 18,
OCTOBER TO DECEMBER, 1983

by

Konstantin A. Karpov

MARINE RESOURCES

Administrative Report No. 88-18

1988

JUN 1989

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ABSTRACT

Field intercept Marine Recreational Fisheries Statistics Survey (MRFSS) data for central and northern California, collected in October to December 1983, is presented in a data report format. Data in this quarterly report are subdivided into three categories: primarily by five geographical areas; secondarily by fishing modes and gear types within each area; and finally by catch definition for each area, mode, and gear type. Tables are presented for these categories, each with three sections: sampled effort, ranked catch, and catch-per-unit-effort (CPUE). Also, within each area, length-frequency histograms and tables are presented for select species.

1/ Marine Resources Administrative Report No 88-18.

2/ Marine Resources Division, 19160 So. Harbor Drive, Fort Bragg, CA 95437.

ACKNOWLEDGMENTS

I would like to thank all past and current participants in the California MRFSS survey who have worked together as a team to generate the data contained in this report. Thanks are due to Jerry Kwiecien and Arthur W. Haseltine for his enthusiastic assistance in editing and to Cheryl A. Avants and Patricia V. Velez for assisting in preparing the final manuscript.

Gordon H. Kubota and Larry Pongeggi of C.I.C. Research in San Diego provided generous access to data tapes and their mainframe for downloading to diskettes for our microcomputer use. Stephen J. Crooke provided assistance in obtaining the data disks for the report.

Russell Porter and the Pacific Marine Fisheries Commission deserve special thanks, as their support in developing the program series and continued assistance throughout the project have made this report possible.

This project was partially funded under the Dingell-Johnson Federal Aid Sportfish Restoration Act, project number F-50-R-1.

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INTRODUCTION

The California Department of Fish and Game under contract to the National Marine Fisheries Service (NMFS) has participated in the Marine Recreational Fisheries Statistics Survey (MRFSS) from mid 1979 to the present. The survey was initiated to gather catch and effort statistics for marine recreational fisheries along the Pacific west coast.

Annual summaries of these statistics are being published elsewhere on a regional basis (Current Fisheries Statistics Numbers 8321, 8323, 8325, 8328 and 8393). In these summaries, California's data is divided into two regions, Del Norte to Monterey counties (northern region) and San Luis Obispo to San Diego counties (southern region).

This Quarterly Report No. 18 covers the period of October through December 1983. It supplements the federal annual summary for only the north-central region of California (Del Norte to San Luis Obispo counties). This region is divided into five areas (subregions) corresponding to historical ports.

METHODS

Catch and length data were collected by Department biologists intercepting anglers actively fishing or in the process of leaving a fishing site. Sampling methodology is described in part in Current Fisheries Statistics (8321, 8323, 8325, 8328, and 8393).

Data in this quarterly report are subdivided into three categories: primarily by five geographical areas; secondarily by fishing modes and gear types within each area; and finally by catch definition for each area, mode, and gear type. Tables are presented for these categories, each with three sections: sampled effort, ranked catch, and catch-per-unit-effort (CPUE).

Also, within each area, length-frequency histograms and tables are presented for select species.

Study Areas

Study areas range in size from one county in Area 5 to six counties in Area 3 (Figure 1). Adjacent counties are combined whenever similarity of habitat and species composition warrants. Boat modes are segregated by county only if separate grounds were fished (i.e. Sonoma County Bodega Bay fishery, sub-area 097, from Mendocino County, sub-area 045).

Area 1, including Del Norte and Humboldt counties, extends from the Oregon border to Shelter Cove. Both counties are combined in all mode comparisons. Area 2 contains Mendocino County and that part of Sonoma County which is north of Bodega Bay. Both counties are combined for all modes except the boat modes (private/rental boat and CPFV). The San Francisco Area 3 is segregated into ocean and bay. This area includes anglers from six counties; Marin, Solano, Contra Costa, Alameda, San Francisco, and San Mateo. These counties encircle the bay and extend down to Ano Nuevo. Two sets of tables and figures were generated based on whether anglers specified having fished in the ocean or the bay. Bay anglers were predominantly from San Francisco Bay, but also included a small percentage of Halfmoon Bay anglers. Area 4 includes Santa Cruz County and that part of Monterey County which is north of Ragged Point. Area 5, San Luis Obispo County, extends down to Point Sal.

Fishing Modes

Modes of fishing were organized into six categories: (i) pier or dock, (ii) jetty or breakwater, (iii) bridge or causeway, (iv) beach or bank, (v) private or rental boat, and (vi) commercial passenger fishing vessel (CPFV).

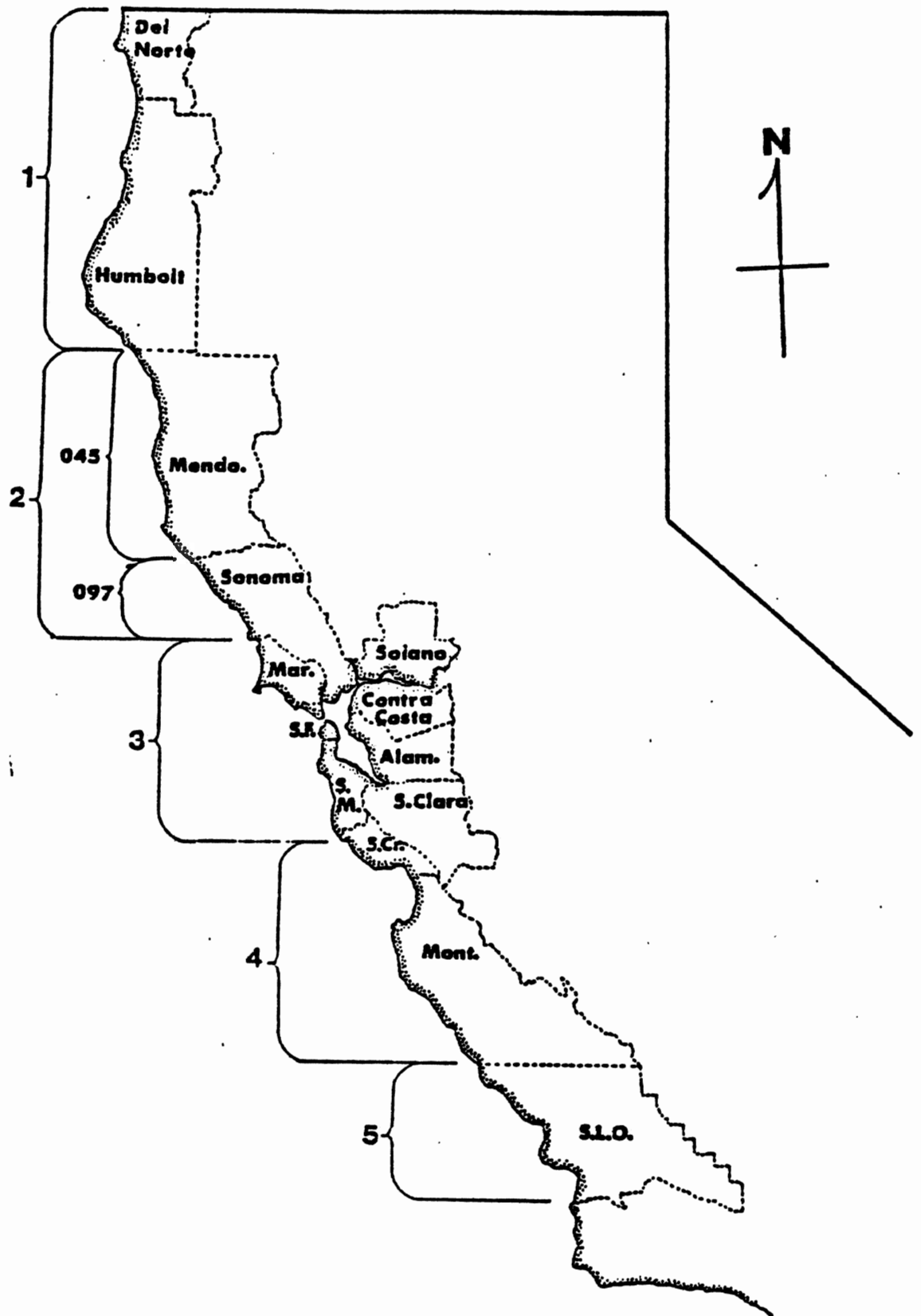


FIGURE 1. Study area counties and sub-areas in northern and central California.

Gear Types

Three types of gear were used; (i) hook-and-line, (ii) spear, or (iii) net. Spears were used only by divers. Dipnet and castnet were the only net gears in active use in northern and central California.

Catch Definition

Catch is defined three different ways: (i) all fish captured, including fish returned dead or alive, those not available at the sampling site (i.e. filleted or given away, etc.), and those available to measure; (ii) landed catch, not including fish returned dead or alive; and, (iii) the measured catch only. Fish caught but unavailable to measure were identified to the nearest taxa using the angler's description.

Computer-Generated Tables and Figures

The Microcomputer Program Series (MPS) was developed to generate the tables and figures used in this report. The programs were designed for flexibility and ease of use on area microcomputers. The programs allow the user to generate tables and figures for any combination of area, mode, gear, or definition of catch. Data generated by these programs include: sampled effort, ranked catch, CPUE, and length-frequency data. Documentation of logic and program listings are available (Karpov, 1984).

Sampled Effort

Sampled effort is the same for all three catch definitions for a particular area, mode, or gear. It includes the number of anglers intercepted, the total hours fishing effort, and total hours still to be fished for incomplete trips.

Ranked Catch

Ranked catch includes rank of species caught by number or weight, and other statistics depending on the catch definition. Fish are ranked by

number caught in two of the catch definitions: all fish caught, and landed catch. The measured catch has fish ranked by weight caught. The measured catch tables include average lengths and standard deviation, and derived average weight.

CPUE

CPUE is calculated using two definitions of both "catch" and "effort". Catch is either number or weight (kilograms) caught. Effort is either angler days or total hours fished. CPUE, computed using weight caught as opposed to number landed, is included only for two of the catch definitions: landed catch and measured catch. Average weights incorporated in the landed catch tables are derived either from the respective measured catch table for the same species or, for the more general species groups, by calculating a group average weight. Group average weights of constituent species were calculated from this quarter's data for the same mode, gear, and area. Angler days represent completed fishing days for most areas and modes. Occasional incomplete trips were included for all modes except boat modes.

Length-Frequency Data

Length-frequency histograms and tables were generated for select species. Histograms are included for highly abundant species where at least 10 measured fish occurred in the most frequent size interval. Histograms were summarized in either 5-, 10-, or 20-mm intervals. The criteria for assigning summary intervals was based on the largest recorded size for the species as reported in Miller and Lea (1972). Fish reported from 0 to 12 inches used 5-mm, greater than 12 to 24 inches used 10-mm and greater than 24 inches were assigned 20-mm intervals.

Length-frequency tables (see Appendix A) were generated for all species with at least five measured fish for any given area, mode, and gear. Tables were summarized in 5-mm intervals and include length statistics for possible use in ANOVA computations (Sokal and Rohlf, 1969).

Species Names and Length-Weight Parameters

Total length was recorded for all species except tuna-like fishes with rigid concave caudal fins; for these fork lengths were used. Weights were not actually measured; rather, they were determined, for all major species taken, from precalculated length-weight relationships. The exponential relationship used was $W=aL^b$; where a and b are constants unique to each species (Appendix B).

During this quarter samplers working from Monterey through Sonoma counties (areas 3, 4, and part of area 2) inadvertently recorded fork lengths for all species measured. All species with moderately convex to concave caudal fins were converted back to total length using fork-total length relationships from several sources (Echeverria and Lenarz 1986, Karpov In press, and Van Hyning 1951). The linear relationship used was $TL=a+b(FL)$; where a and b are constants unique to each species (Appendix C).

Scientific and common names used were standardized using the American Fisheries Society list (1980).

Table 1. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	33
Total Hours Effort for Anglers Intercepted	=	75.8
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Perch, Pile	1	5	33.3
Salmon, Coho (Silver)	2	3	20.0
Seaperch, White	3	3	20.0
Salmon, Chinook (King)	4	1	6.7
Greenling, Kelp	5	1	6.7
Seaperch, Rubberlip	6	1	6.7
Surfperch, Redtail	7	1	6.7
Total		15	100

C. CPUE

Catch per Angler Day = 0.45 Catch per Angler Hour = 0.20

Table 2. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	33
Total Hours Effort for Anglers Intercepted	=	75.8
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Perch, Pile	1	5	41.7	0.87	4.34
Seaperch, White	2	3	25.0	0.26	0.79
Salmon, Coho (Silver)	3	1	8.3	2.43	2.43
Greenling, Kelp	4	1	8.3	0.29	0.29
Seaperch, Rubberlip	5	1	8.3	0.73	0.73
Surfperch, Redtail	6	1	8.3	0.48	0.48
Total		12	100		9.05

C. CPUE

Catch per Angler Day	=	0.36	Catch per Angler Hour	=	0.16
Kg per Angler Day	=	0.27	Kg per Angler Hour	=	0.12

* Weight estimated from length-to-weight regression if available.

Table 3. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 33
 Total Hours Effort for Anglers Intercepted = 75.8
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Perch, Pile	1	4.34	5	41.7	5	0.87	373	18
Salmon, Coho (Silver)	2	2.43	1	8.3	1	2.43	636	0
Seaperch, White	3	0.79	3	25.0	3	0.26	279	3
Seaperch, Rubberlip	4	0.73	1	8.3	1	0.73	338	0
Surfperch, Redtail	5	0.48	1	8.3	1	0.48	303	0
Greenling, Kelp	6	0.29	1	8.3	1	0.29	273	0
Total		9.05	12	100	12			

C. CPUE***

Catch per Angler Day = 0.36 Catch per Angler Hour = 0.16
 Kg per Angler Day = 0.27 Kg per Angler Hour = 0.12

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 4. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	65
Total Hours Effort for Anglers Intercepted	=	196.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Greenling, Kelp	1	21	55.3
Surfperch, Redtail	2	5	13.2
Seaperch, Striped	3	3	7.9
Salmon, Chinook (King)	4	2	5.3
Greenling, Rock	5	2	5.3
Salmon, Coho (Silver)	6	1	2.6
Rockfish, Grass	7	1	2.6
Sculpin, Buffalo	8	1	2.6
Cabazon	9	1	2.6
Flatfishes	10	1	2.6
Total		38	100

C. CPUE

Catch per Angler Day	=	0.58	Catch per Angler Hour	=	0.19
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Table 5. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 65
 Total Hours Effort for Anglers Intercepted = 196.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Greenling, Kelp	1	18	60.0	0.27	4.88
Surfperch, Redtail	2	5	16.7	0.42	2.09
Seaperch, Striped	3	3	10.0	0.54	1.61
Greenling, Rock	4	2	6.7	0.38	0.76
Rockfish, Grass	5	1	3.3	0.70	0.70
Cabazon	6	1	3.3	0.30	0.30
Total		30	100		10.35

C. CPUE

Catch per Angler Day = 0.46 Catch per Angler Hour = 0.15
 Kg per Angler Day = 0.16 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

Table 6. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 65
 Total Hours Effort for Anglers Intercepted = 196.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Greenling, Kelp	1	4.34	16	57.1	16	0.27	263	31
Surfperch, Redtail	2	2.09	5	17.9	5	0.42	287	35
Seaperch, Striped	3	1.61	3	10.7	3	0.54	315	55
Greenling, Rock	4	0.76	2	7.1	2	0.38	300	2
Rockfish, Grass	5	0.70	1	3.6	1	0.70	316	0
Cabazon	6	0.30	1	3.6	1	0.30	253	0
Total		9.80	28	100	28			

C. CPUE***

Catch per Angler Day = 0.43 Catch per Angler Hour = 0.14
 Kg per Angler Day = 0.15 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 7. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 164
 Total Hours Effort for Anglers Intercepted = 465.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Silver	1	40	34.5
Surfperch, Redtail	2	17	14.7
Seaperch, Striped	3	12	10.3
Surfperch, Calico	4	12	10.3
Trout, Rainbow	5	8	6.9
Prickleback, Rock	6	6	5.2
Salmon, Chinook (King)	7	5	4.3
Salmon, Coho (Silver)	8	3	2.6
Greenling, Kelp	9	3	2.6
Surfperch, Walleye	10	3	2.6
Rockfish, Grass	11	2	1.7
Seaperch, White	12	2	1.7
Jacksmelt	13	1	0.9
Cabazon	14	1	0.9
Prickleback, Monkeyface	15	1	0.9
Total		116	100

C. CPUE

Catch per Angler Day = 0.71 Catch per Angler Hour = 0.25

Table 8. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 164
 Total Hours Effort for Anglers Intercepted = 465.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Silver	1	37	39.8	0.11	4.06
Surfperch, Redtail	2	15	16.1	0.38	5.76
Seaperch, Striped	3	11	11.8	0.37	4.09
Surfperch, Calico	4	9	9.7	0.21	1.88
Trout, Rainbow	5	6	6.5	0.19	1.14
Salmon, Chinook (King)	6	4	4.3	0.58	2.33
Surfperch, Walleye	7	3	3.2	0.28	0.85
Salmon, Coho (Silver)	8	2	2.2	1.59	3.18
Seaperch, White	9	2	2.2	0.37	0.73
Jacksmelt	10	1	1.1	0.36	0.36
Rockfish, Grass	11	1	1.1	0.29	0.29
Prickleback, Rock	12	1	1.1	0.00**	0.00
Prickleback, Monkeyface	13	1	1.1	0.00**	0.00
Total		93	100		24.68

C. CPUE

Catch per Angler Day = 0.57 Catch per Angler Hour = 0.20
 Kg per Angler Day = 0.15 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 9. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 164
 Total Hours Effort for Anglers Intercepted = 465.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Redtail	1	5.76	15	16.1	14	0.38	280	29
Seaperch, Striped	2	4.09	11	11.8	11	0.37	274	55
Surfperch, Silver	3	4.06	37	39.8	13	0.11	191	16
Salmon, Coho (Silver)	4	3.18	2	2.2	2	1.59	537	132
Salmon, Chinook (King)	5	2.33	4	4.3	4	0.58	385	73
Surfperch, Calico	6	1.88	9	9.7	9	0.21	229	36
Trout, Rainbow	7	1.14	6	6.5	6	0.19	272	31
Surfperch, Walleye	8	0.85	3	3.2	3	0.28	248	10
Seaperch, White	9	0.73	2	2.2	2	0.37	312	22
Jacksmelt	10	0.36	1	1.1	1	0.36	358	0
Rockfish, Grass	11	0.29	1	1.1	1	0.29	241	0
Prickleback, Rock	12	0.00	1	1.1	1	0.00	210	0
Prickleback, Monkeyface	13	0.00	1	1.1	1	0.00	153	0
Total		24.68	93	100	68			

C. CPUE***

Catch per Angler Day = 0.57 Catch per Angler Hour = 0.20
 Kg per Angler Day = 0.15 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 10. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	53
Total Hours Effort for Anglers Intercepted	=	201.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Black	1	13	30.2
Salmon, Coho (Silver)	2	12	27.9
Rockfish, Blue	3	9	20.9
Salmon	4	3	7.0
Lingcod	5	2	4.7
Bonito, Pacific	6	2	4.7
Salmon, Chinook (King)	7	1	2.3
Greenling, Kelp	8	1	2.3
Total		43	100

C. CPUE

Catch per Angler Day	=	0.81	Catch per Angler Hour	=	0.21
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Table 11. Sampled Effort, Ranked Catch and CPUE for Area 1
in 1983 for Quarter 4, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents Number Landed
and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 53
Total Hours Effort for Anglers Intercepted = 201.0
Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Black	1	12	35.3	1.02	12.22
Rockfish, Blue	2	9	26.5	0.61	5.46
Salmon, Coho (Silver)	3	5	14.7	2.28	11.38
Salmon	4	3	8.8	2.93	8.80
Lingcod	5	2	5.9	2.13	4.26
Bonito, Pacific	6	2	5.9	3.32	6.65
Greenling, Kelp	7	1	2.9	1.00	1.00
Total		34	100		49.77

C. CPUE

Catch per Angler Day = 0.64 Catch per Angler Hour = 0.17
Kg per Angler Day = 0.94 Kg per Angler Hour = 0.25

* Weight estimated from length-to-weight regression if available.

Table 12. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 53
 Total Hours Effort for Anglers Intercepted = 201.0
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Black	1	12.22	12	35.3	12	1.02	390	90
Salmon, Coho (Silver)	2	11.38	5	14.7	5	2.28	612	91
Salmon	3	8.80	3	8.8	3	2.93	674	56
Bonito, Pacific	4	6.65	2	5.9	2	3.32	626	2
Rockfish, Blue	5	5.46	9	26.5	9	0.61	338	37
Lingcod	6	4.26	2	5.9	1	2.13	581	0
Greenling, Kelp	7	1.00	1	2.9	1	1.00	418	0
Total		49.77	34	100	33			

C. CPUE***

Catch per Angler Day = 0.64 Catch per Angler Hour = 0.17
 Kg per Angler Day = 0.94 Kg per Angler Hour = 0.25

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 13. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 10
 Total Hours Effort for Anglers Intercepted = 19.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Mackerels and Tunas	1	2	%100.0
Total		2	100

C. CPUE

Catch per Angler Day = 0.20 Catch per Angler Hour = 0.10

Table 14. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 10
 Total Hours Effort for Anglers Intercepted = 19.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt.(kg)*	Weight Caught
Mackerels and Tunas	1	2	%100.0	0.00**	0.00
Total		2	100		0.00

C. CPUE

Catch per Angler Day = 0.20 Catch per Angler Hour = 0.10
 Kg per Angler Day = 0.00 Kg per Angler Hour = 0.00

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 15. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 10
 Total Hours Effort for Anglers Intercepted = 19.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	Wt.* (kg)	Ln.** (mm)	SD LN.
Mackerels and Tunas	1	0.00	2	%100.0	8	0.00	239	63
Total		0.00	2	100	8			

C. CPUE***

Catch per Angler Day = 0.20 Catch per Angler Hour = 0.10
 Kg per Angler Day = 0.00 Kg per Angler Hour = 0.00

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 16. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	53
Total Hours Effort for Anglers Intercepted	=	173.5
Total Hours Still to Fish (Incomplete Trips)	=	16.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Mackerel, Pacific (Chub)	1	14	32.6
Rockfishes (unidentified)	2	13	30.2
Salmon, Coho (Silver)	3	8	18.6
Trouts	4	3	7.0
Cabazon	5	2	4.7
Unidentified Fishes	6	1	2.3
Jacksmelt	7	1	2.3
Greenling, Kelp	8	1	2.3
Total		43	100

C. CPUE

Catch per Angler Day	=	0.81	Catch per Angler Hour	=	0.25
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Table 17. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 53
 Total Hours Effort for Anglers Intercepted = 173.5
 Total Hours Still to Fish (Incomplete Trips) = 16.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfishes (unidentified)	1	13	52.0	0.00**	0.00
Salmon, Coho (Silver)	2	4	16.0	1.44	5.77
Mackerel, Pacific (Chub)	3	4	16.0	0.00**	0.00
Cabezon	4	2	8.0	0.73	1.45
Jacksmelt	5	1	4.0	0.36	0.36
Greenling, Kelp	6	1	4.0	0.31	0.31
Total		25	100		7.90

C. CPUE

Catch per Angler Day = 0.47 Catch per Angler Hour = 0.14
 Kg per Angler Day = 0.15 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 18. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 53
 Total Hours Effort for Anglers Intercepted = 173.5
 Total Hours Still to Fish (Incomplete Trips) = 16.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Salmon, Coho (Silver)	1	5.77	4	50.0	4	1.44	533	34
Cabazon	2	1.45	2	25.0	2	0.73	330	122
Jacksmelt	3	0.36	1	12.5	1	0.36	358	0
Greenling, Kelp	4	0.31	1	12.5	1	0.31	280	0
Total		7.90	8	100	8			

C. CPUE***

Catch per Angler Day = 0.15 Catch per Angler Hour = 0.05
 Kg per Angler Day = 0.15 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 19. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 145
 Total Hours Effort for Anglers Intercepted = 305.5
 Total Hours Still to Fish (Incomplete Trips) = 42.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Calico	1	37	43.5
Seaperch, White	2	13	15.3
Perch, Black	3	6	7.1
Surfperch, Barred	4	5	5.9
Salmon, Coho (Silver)	5	4	4.7
Cabezon	6	4	4.7
Trouts	7	3	3.5
Trout, Rainbow	8	3	3.5
Seaperch, Striped	9	3	3.5
Greenling, Kelp	10	2	2.4
Greenlings (general)	11	1	1.2
Sculpins	12	1	1.2
Perch, Shiner	13	1	1.2
Surfperch, Silver	14	1	1.2
Perch, Pile	15	1	1.2
Total		85	100

C. CPUE

Catch per Angler Day = 0.59 Catch per Angler Hour = 0.28

Table 20. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 145
 Total Hours Effort for Anglers Intercepted = 305.5
 Total Hours Still to Fish (Incomplete Trips) = 42.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Calico	1	37	45.1	0.36	13.30
Seaperch, White	2	13	15.9	0.22	2.85
Perch, Black	3	6	7.3	0.32	1.90
Surfperch, Barred	4	5	6.1	0.39	1.93
Salmon, Coho (Silver)	5	4	4.9	1.65	6.59
Cabezon	6	4	4.9	0.81	3.22
Trouts	7	3	3.7	0.16**	0.48
Trout, Rainbow	8	3	3.7	0.16	0.47
Seaperch, Striped	9	3	3.7	0.28	0.85
Greenlings (general)	10	1	1.2	0.58	0.58
Greenling, Kelp	11	1	1.2	0.54	0.54
Surfperch, Silver	12	1	1.2	0.23	0.23
Perch, Pile	13	1	1.2	0.87	0.87
Total		82	100		33.81

C. CPUE

Catch per Angler Day = 0.57 Catch per Angler Hour = 0.27
 Kg per Angler Day = 0.23 Kg per Angler Hour = 0.11

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 21. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 145
 Total Hours Effort for Anglers Intercepted = 305.5
 Total Hours Still to Fish (Incomplete Trips) = 42.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Calico	1	13.30	37	45.7	11	0.36	270	45
Salmon, Coho (Silver)	2	6.59	4	4.9	4	1.65	554	60
Cabezon	3	3.22	4	4.9	4	0.81	351	79
Seaperch, White	4	2.85	13	16.0	11	0.22	260	27
Surfperch, Barred	5	1.93	5	6.2	5	0.39	269	32
Perch, Black	6	1.90	6	7.4	6	0.32	262	13
Perch, Pile	7	0.87	1	1.2	1	0.87	374	0
Seaperch, Striped	8	0.85	3	3.7	3	0.28	254	43
Greenlings (general)	9	0.58	1	1.2	1	0.58	347	0
Greenling, Kelp	10	0.54	1	1.2	1	0.54	339	0
Trout, Rainbow	11	0.47	3	3.7	3	0.16	249	56
Surfperch, Silver	12	0.23	1	1.2	1	0.23	242	0
Trouts	13	0.00	2	2.5	2	0.00	486	196
Total		33.33	81	100	53			

C. CPUE***

Catch per Angler Day = 0.56 Catch per Angler Hour = 0.27
 Kg per Angler Day = 0.23 Kg per Angler Hour = 0.11

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 22. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Beach or Bank Anglers Using Spear Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	11
Total Hours Effort for Anglers Intercepted	=	9.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Perch, Pile	1	3	23.1
Rockfish, Blue	2	2	15.4
Greenling, Kelp	3	2	15.4
Cabazon	4	2	15.4
Seaperch, Striped	5	2	15.4
Rockfish, China	6	1	7.7
Lingcod	7	1	7.7
Total		13	100

C. CPUE

Catch per Angler Day =	1.18	Catch per Angler Hour =	1.44
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Table 23. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Beach or Bank Anglers Using Spear Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 11
 Total Hours Effort for Anglers Intercepted = 9.0
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Perch, Pile	1	3	23.1	1.16	3.47
Rockfish, Blue	2	2	15.4	0.62	1.25
Greenling, Kelp	3	2	15.4	0.73	1.45
Cabazon	4	2	15.4	1.94	3.88
Seaperch, Striped	5	2	15.4	0.57	1.14
Rockfish, China	6	1	7.7	0.60	0.60
Lingcod	7	1	7.7	3.13	3.13
Total		13	100		14.91

C. CPUE

Catch per Angler Day = 1.18 Catch per Angler Hour = 1.44
 Kg per Angler Day = 1.36 Kg per Angler Hour = 1.66

* Weight estimated from length-to-weight regression if available.

Table 24. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1983 for Quarter 4, by Beach or Bank Anglers Using Spear Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 11
 Total Hours Effort for Anglers Intercepted = 9.0
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Cabazon	1	3.88	2	15.4	2	1.94	490	110
Perch, Pile	2	3.47	3	23.1	3	1.16	409	24
Lingcod	3	3.13	1	7.7	1	3.13	661	0
Greenling, Kelp	4	1.45	2	15.4	2	0.73	374	21
Rockfish, Blue	5	1.25	2	15.4	2	0.62	343	38
Seaperch, Striped	6	1.14	2	15.4	2	0.57	326	24
Rockfish, China	7	0.60	1	7.7	1	0.60	319	0
Total		14.91	13	100	13			

C. CPUE***

Catch per Angler Day = 1.18 Catch per Angler Hour = 1.44
 Kg per Angler Day = 1.36 Kg per Angler Hour = 1.66

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 25. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	13
Total Hours Effort for Anglers Intercepted	=	56.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	156	79.2
Mackerel, Pacific (Chub)	2	12	6.1
Rockfish, Yellowtail	3	11	5.6
Lingcod	4	7	3.6
Rockfish, Widow	5	6	3.0
Rockfish, Canary	6	2	1.0
Shark, Soupfin	7	1	0.5
Rockfish, Quillback	8	1	0.5
Rockfish, Rosy	9	1	0.5
Total		197	100

C. CPUE

Catch per Angler Day	=	15.15	Catch per Angler Hour	=	3.52
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Table 26. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	13
Total Hours Effort for Anglers Intercepted	=	56.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	156	79.2	0.87	135.68
Mackerel, Pacific (Chub)	2	12	6.1	0.70	8.37
Rockfish, Yellowtail	3	11	5.6	1.26	13.85
Lingcod	4	7	3.6	5.02	35.14
Rockfish, Widow	5	6	3.0	0.50	3.02
Rockfish, Canary	6	2	1.0	0.58	1.16
Shark, Soupfin	7	1	0.5	0.00**	0.00
Rockfish, Quillback	8	1	0.5	0.44	0.44
Rockfish, Rosy	9	1	0.5	0.38	0.38
Total		197	100		198.03

C. CPUE

Catch per Angler Day	=	15.15	Catch per Angler Hour	=	3.52
Kg per Angler Day	=	15.23	Kg per Angler Hour	=	3.54

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 27. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 13
 Total Hours Effort for Anglers Intercepted = 56.0
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Blue	1	135.68	156	79.2	104	0.87	380	47
Lingcod	2	35.14	7	3.6	7	5.02	737	190
Rockfish, Yellowtail	3	13.85	11	5.6	11	1.26	436	58
Mackerel, Pacific (Chub)	4	8.37	12	6.1	12	0.70	366	24
Rockfish, Widow	5	3.02	6	3.0	6	0.50	314	91
Rockfish, Canary	6	1.16	2	1.0	2	0.58	341	29
Rockfish, Quillback	7	0.44	1	0.5	1	0.44	279	0
Rockfish, Rosy	8	0.38	1	0.5	1	0.38	286	0
Shark, Soupfin	9	0.00	1	0.5	1	0.00	1379	0
Total		198.03	197	100	145			

C. CPUE***

Catch per Angler Day = 15.15 Catch per Angler Hour = 3.52
 Kg per Angler Day = 15.23 Kg per Angler Hour = 3.54

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 2. Length-Frequency Histogram for Blue Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 045, Quarter 4, 1983.

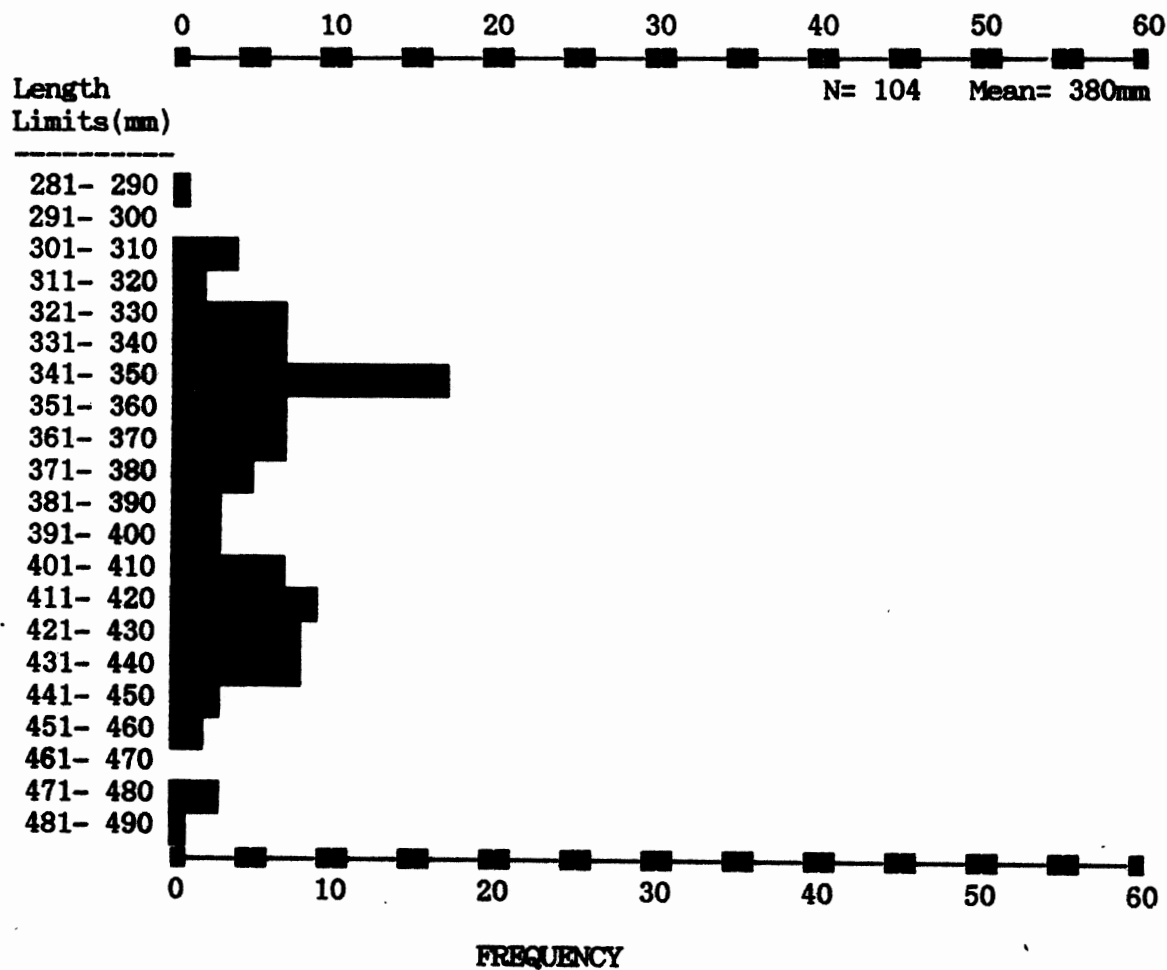


Table 28. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	22
Total Hours Effort for Anglers Intercepted	=	78.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfishes (unidentified)	1	95	75.4
Mackerel, Pacific (Chub)	2	12	9.5
Rockfish, Blue	3	7	5.6
Lingcod	4	5	4.0
Rockfish, Copper	5	3	2.4
Rockfish, Quillback	6	1	0.8
Rockfish, Canary	7	1	0.8
Greenling, Kelp	8	1	0.8
Sole, Petrale	9	1	0.8
Total		126	100

C. CPUE

Catch per Angler Day	=	5.73	Catch per Angler Hour	=	1.61
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Table 29. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	22
Total Hours Effort for Anglers Intercepted	=	78.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfishes (unidentified)	1	95	75.4	0.67**	63.65
Mackerel, Pacific (Chub)	2	12	9.5	0.48	5.74
Rockfish, Blue	3	7	5.6	0.60	4.18
Lingcod	4	5	4.0	0.00**	0.00
Rockfish, Copper	5	3	2.4	1.05	3.15
Rockfish, Quillback	6	1	0.8	0.33	0.33
Rockfish, Canary	7	1	0.8	0.38	0.38
Greenling, Kelp	8	1	0.8	0.83	0.83
Sole, Petrale	9	1	0.8	0.00**	0.00
Total		126	100		78.26

C. CPUE

Catch per Angler Day	=	5.73	Catch per Angler Hour	=	1.61
Kg per Angler Day	=	3.56	Kg per Angler Hour	=	1.00

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 30. Sampled Effort, Ranked Catch and CPUE for Area 097
in 1983 for Quarter 4, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents Only the Fish
Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 22
Total Hours Effort for Anglers Intercepted = 78.5
Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Mackerel, Pacific (Chub)	1	5.74	12	63.2	10	0.48	326	35
Rockfish, Copper	2	3.15	3	15.8	3	1.05	361	116
Greenling, Kelp	3	0.83	1	5.3	1	0.83	392	0
Rockfish, Blue	4	0.60	1	5.3	1	0.60	340	0
Rockfish, Canary	5	0.38	1	5.3	1	0.38	297	0
Rockfish, Quillback	6	0.33	1	5.3	1	0.33	252	0
Total		11.03	19	100	17			

C. CPUE***

Catch per Angler Day = 0.86 Catch per Angler Hour = 0.24
Kg per Angler Day = 0.50 Kg per Angler Hour = 0.14

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 31. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	9
Total Hours Effort for Anglers Intercepted	=	45.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfishes (unidentified)	1	84	59.2
Mackerel, Pacific (Chub)	2	28	19.7
Rockfish, Yellowtail	3	15	10.6
Rockfish, Black	4	4	2.8
Rockfish, Blue	5	3	2.1
Rockfish, Olive	6	3	2.1
Rockfish, Copper	7	2	1.4
Rockfish, Starry	8	2	1.4
Rockfish, Greenspotted	9	1	0.7
Total		142	100

C. CPUE

Catch per Angler Day = 15.78 Catch per Angler Hour = 3.16

Table 32. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	9
Total Hours Effort for Anglers Intercepted	=	45.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfishes (unidentified)	1	84	59.2	1.10**	92.40
Mackerel, Pacific (Chub)	2	28	19.7	0.00**	0.00
Rockfish, Yellowtail	3	15	10.6	1.33	19.92
Rockfish, Black	4	4	2.8	0.88	3.51
Rockfish, Blue	5	3	2.1	0.82	2.47
Rockfish, Olive	6	3	2.1	0.85	2.54
Rockfish, Copper	7	2	1.4	1.21	2.42
Rockfish, Starry	8	2	1.4	0.62	1.23
Rockfish, Greenspotted	9	1	0.7	0.95	0.95
Total		142	100		125.44

C. CPUE

Catch per Angler Day	=	15.78	Catch per Angler Hour	=	3.16
Kg per Angler Day	=	13.94	Kg per Angler Hour	=	2.79

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 33. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 9
 Total Hours Effort for Anglers Intercepted = 45.0
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Yellowtail	1	19.92	15	50.0	15	1.33	446	48
Rockfish, Black	2	3.51	4	13.3	4	0.88	375	82
Rockfish, Olive	3	2.54	3	10.0	3	0.85	399	32
Rockfish, Blue	4	2.47	3	10.0	3	0.82	370	70
Rockfish, Copper	5	2.42	2	6.7	2	1.21	399	64
Rockfish, Starry	6	1.23	2	6.7	2	0.62	324	79
Rockfish, Greenspotted	7	0.95	1	3.3	1	0.95	391	0
Total		33.04	30	100	30			

C. CPUE***

Catch per Angler Day = 3.33 Catch per Angler Hour = 0.67
 Kg per Angler Day = 3.67 Kg per Angler Hour = 0.73

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 34. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 25
 Total Hours Effort for Anglers Intercepted = 109.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperches	1	16	22.5
Surfperch, Walleye	2	15	21.1
Sculpin, Pacific Staghorn	3	12	16.9
Salmon	4	8	11.3
Flounder, Starry	5	8	11.3
Jacksmelt	6	3	4.2
Surfperch, Silver	7	3	4.2
Eagle Rays	8	2	2.8
Croaker, White	9	2	2.8
Lingcod	10	1	1.4
Flounders, Righteye	11	1	1.4
Total		71	100

C. CPUE

Catch per Angler Day = 2.84 Catch per Angler Hour = 0.65

Table 35. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	25
Total Hours Effort for Anglers Intercepted	=	109.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Walleye	1	15	34.9	0.14	2.09
Surfperches	2	14	32.6	0.14**	1.96
Flounder, Starry	3	7	16.3	0.00**	0.00
Jacksmelt	4	3	7.0	0.38	1.15
Surfperch, Silver	5	3	7.0	0.12	0.35
Flounders, Righteye	6	1	2.3	0.45	0.45
Total		43	100		5.99

C. CPUE

Catch per Angler Day	=	1.72	Catch per Angler Hour	=	0.39
Kg per Angler Day	=	0.24	Kg per Angler Hour	=	0.05

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 36. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 25
 Total Hours Effort for Anglers Intercepted = 109.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Walleye	1	1.26	9	56.3	10	0.14	200	29
Jacksmelt	2	1.15	3	18.8	3	0.38	362	25
Flounders, Righteye	3	0.45	1	6.3	1	0.45	331	0
Surfperch, Silver	4	0.35	3	18.8	3	0.12	195	4
Total		3.20	16	100	17			

C. CPUE***

Catch per Angler Day = 0.64 Catch per Angler Hour = 0.15
 Kg per Angler Day = 0.13 Kg per Angler Hour = 0.03

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 37. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	21
Total Hours Effort for Anglers Intercepted	=	48.5
Total Hours Still to Fish (Incomplete Trips)	=	2.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperches	1	9	37.5
Surfperch, Walleye	2	4	16.7
Flounder, Starry	3	4	16.7
Eagle Rays	4	1	4.2
Rockfish, Kelp	5	1	4.2
Sculpin, Pacific Staghorn	6	1	4.2
Cabezon	7	1	4.2
Perch, Black	8	1	4.2
Prickleback, Monkeyface	9	1	4.2
Flounders, Lefteye	10	1	4.2
Total		24	100

C. CPUE

Catch per Angler Day	=	1.14	Catch per Angler Hour	=	0.49
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Table 39. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 21
 Total Hours Effort for Anglers Intercepted = 48.5
 Total Hours Still to Fish (Incomplete Trips) = 2.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Walleye	1	0.80	4	44.4	4	0.20	225	12
Rockfish, Kelp	2	0.39	1	11.1	1	0.39	296	0
Perch, Black	3	0.33	1	11.1	1	0.33	267	0
Flounder, Starry	4	0.21	1	11.1	1	0.21	266	0
Prickleback, Monkeyface	5	0.00	1	11.1	1	0.00	597	0
Flounders, Lefteye	6	0.00	1	11.1	1	0.00	342	0
Total		1.72	9	100	9			

C. CPUE***

Catch per Angler Day = 0.43 Catch per Angler Hour = 0.19
 Kg per Angler Day = 0.08 Kg per Angler Hour = 0.04

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 40. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	32
Total Hours Effort for Anglers Intercepted	=	89.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Barred	1	10	58.8
Surfperches	2	4	23.5
Jacksmelt	3	1	5.9
Bass, Striped	4	1	5.9
Surfperch, Calico	5	1	5.9
Total		17	100

C. CPUE

Catch per Angler Day	=	0.53	Catch per Angler Hour	=	0.19
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Table 41. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	32
Total Hours Effort for Anglers Intercepted	=	89.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Barred	1	10	76.9	0.27	2.72
Jacksmelt	2	1	7.7	0.37	0.37
Bass, Striped	3	1	7.7	0.00**	0.00
Surfperch, Calico	4	1	7.7	0.23	0.23
Total		13	100		3.31

C. CPUE

Catch per Angler Day	=	0.41	Catch per Angler Hour	=	0.15
Kg per Angler Day	=	0.10	Kg per Angler Hour	=	0.04

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 42. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 32
 Total Hours Effort for Anglers Intercepted = 89.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Barred	1	2.72	10	83.3	10	0.27	236	45
Jacksmelt	2	0.37	1	8.3	1	0.37	360	0
Surfperch, Calico	3	0.23	1	8.3	1	0.23	240	0
Total		3.31	12	100	12			

C. CPUE***

Catch per Angler Day = 0.38 Catch per Angler Hour = 0.13
 Kg per Angler Day = 0.10 Kg per Angler Hour = 0.04

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 43. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	10
Total Hours Effort for Anglers Intercepted	=	42.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Lingcod	1	9	22.5
Rockfish, Blue	2	8	20.0
Rockfishes (unidentified)	3	7	17.5
Croaker, White	4	5	12.5
Chilipepper	5	4	10.0
Mackerel, Pacific (Chub)	6	3	7.5
Rockfish, Brown	7	2	5.0
Bocaccio	8	1	2.5
Bonito, Pacific	9	1	2.5
Total		40	100

C. CPUE

Catch per Angler Day	=	4.00	Catch per Angler Hour	=	0.94
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Table 44. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	10
Total Hours Effort for Anglers Intercepted	=	42.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfishes (unidentified)	1	7	21.9	0.52**	3.64
Lingcod	2	7	21.9	4.11	28.79
Croaker, White	3	5	15.6	0.00**	0.00
Chilipepper	4	4	12.5	0.74	2.96
Rockfish, Blue	5	4	12.5	0.30	1.19
Mackerel, Pacific (Chub)	6	3	9.4	0.00**	0.00
Rockfish, Brown	7	2	6.3	0.54	1.08
Total		32	100		35.70

C. CPUE

Catch per Angler Day	=	3.20	Catch per Angler Hour	=	0.75
Kg per Angler Day	=	3.57	Kg per Angler Hour	=	0.84

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 45. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 10
 Total Hours Effort for Anglers Intercepted = 42.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Lingcod	1	8.23	2	15.4	2	4.11	724	29
Chilipepper	2	2.96	4	30.8	4	0.74	389	46
Rockfish, Blue	3	1.19	4	30.8	4	0.30	268	25
Rockfish, Brown	4	1.08	2	15.4	2	0.54	310	40
Rockfishes (unidentified)	5	0.00	1	7.7	0	0.00	0	0
Total		13.45	13	100	12			

C. CPUE***

Catch per Angler Day = 1.30 Catch per Angler Hour = 0.31
 Kg per Angler Day = 1.35 Kg per Angler Hour = 0.32

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 46. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	18
Total Hours Effort for Anglers Intercepted	=	74.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfishes (unidentified)	1	105	43.2
Rockfish, Yellowtail	2	63	25.9
Rockfish, Blue	3	34	14.0
Rockfish, Olive	4	7	2.9
Rockfish, Copper	5	4	1.6
Bocaccio	6	4	1.6
Rockfish, Canary	7	4	1.6
Jacksmelt	8	3	1.2
Rockfish, Yelloweye	9	3	1.2
Rockfish, Starry	10	3	1.2
Rockfish, Speckled	11	3	1.2
Unidentified Fishes	12	2	0.8
Rockfish, Brown	13	2	0.8
Lingcod	14	2	0.8
Chilipepper	15	1	0.4
Rockfish, Tiger	16	1	0.4
Rockfish, Rosy	17	1	0.4
Rockfish, Greenspotted	18	1	0.4
Total		243	100

C. CPUE

Catch per Angler Day	=	13.50	Catch per Angler Hour	=	3.26
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Table 47. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	18
Total Hours Effort for Anglers Intercepted	=	74.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfishes (unidentified)	1	105	44.5	1.27**	133.35
Rockfish, Yellowtail	2	63	26.7	1.28	80.46
Rockfish, Blue	3	33	14.0	0.78	25.74
Rockfish, Olive	4	7	3.0	1.08	7.53
Rockfish, Copper	5	4	1.7	1.03	4.11
Bocaccio	6	4	1.7	5.18	20.71
Rockfish, Canary	7	4	1.7	1.60	6.41
Rockfish, Yelloweye	8	3	1.3	2.87	8.61
Rockfish, Starry	9	3	1.3	1.26	3.77
Rockfish, Speckled	10	3	1.3	0.85	2.56
Rockfish, Brown	11	2	0.8	0.54	1.08
Chilipepper	12	1	0.4	0.75	0.75
Rockfish, Tiger	13	1	0.4	1.82	1.82
Rockfish, Rosy	14	1	0.4	0.28	0.28
Rockfish, Greenspotted	15	1	0.4	1.08	1.08
Lingcod	16	1	0.4	10.48	10.48
Total		236	100		308.74

C. CPUE

Catch per Angler Day	=	13.11	Catch per Angler Hour	=	3.17
Kg per Angler Day	=	17.15	Kg per Angler Hour	=	4.14

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 48. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 18
 Total Hours Effort for Anglers Intercepted = 74.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Yellowtail	1	80.46	63	48.1	63	1.28	443	35
Rockfish, Blue	2	25.74	33	25.2	34	0.78	366	47
Bocaccio	3	20.71	4	3.1	4	5.18	770	98
Lingcod	4	10.48	1	0.8	1	10.48	990	0
Rockfish, Yelloweye	5	8.61	3	2.3	3	2.87	534	40
Rockfish, Olive	6	7.53	7	5.3	4	1.08	430	43
Rockfish, Canary	7	6.41	4	3.1	4	1.60	439	154
Rockfish, Copper	8	4.11	4	3.1	4	1.03	379	43
Rockfish, Starry	9	3.77	3	2.3	3	1.26	417	22
Rockfish, Speckled	10	2.56	3	2.3	3	0.85	389	14
Rockfish, Tiger	11	1.82	1	0.8	1	1.82	452	0
Rockfish, Brown	12	1.08	2	1.5	2	0.54	312	22
Rockfish, Greenspotted	13	1.08	1	0.8	1	1.08	408	0
Chilipepper	14	0.75	1	0.8	1	0.75	394	0
Rockfish, Rosy	15	0.28	1	0.8	1	0.28	259	0
Total		175.39	131	100	129			

C. CPUE***

Catch per Angler Day = 7.28 Catch per Angler Hour = 1.76
 Kg per Angler Day = 9.74 Kg per Angler Hour = 2.35

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 3. Length-Frequency Histogram for Yellowtail Rockfish
Taken by All CPFV Anglers Using Hook-and-Line Gear.
Area 3 (Ocean), Quarter 4, 1983.

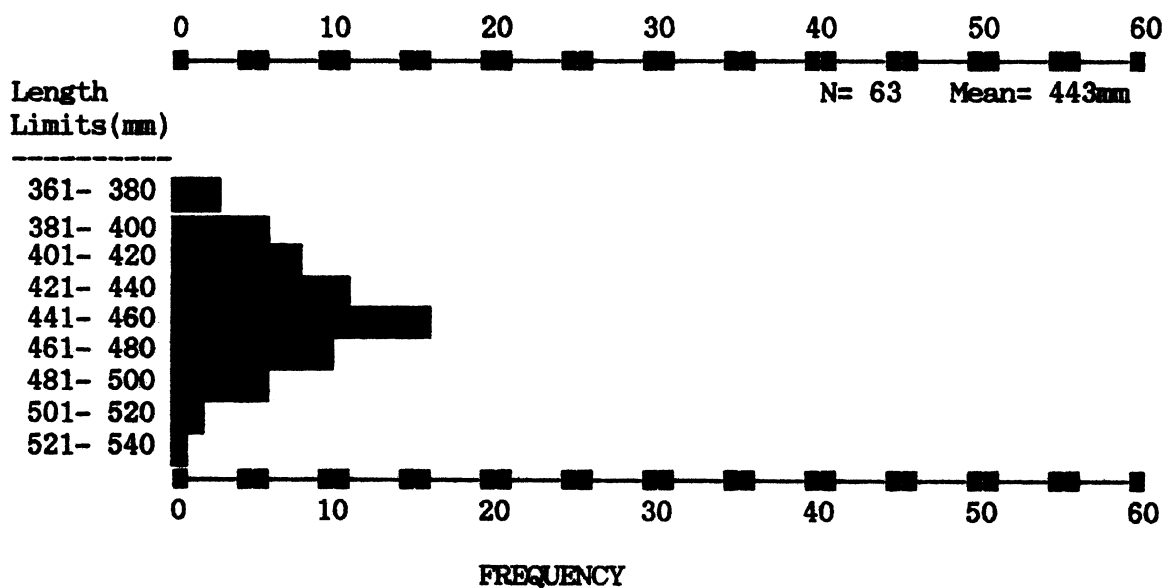


Table 49. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	80
Total Hours Effort for Anglers Intercepted	=	280.5
Total Hours Still to Fish (Incomplete Trips)	=	4.1

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Sculpin, Pacific Staghorn	1	41	28.9
Goby, Yellowfin	2	32	22.5
Croaker, White	3	17	12.0
Rockfishes (unidentified)	4	9	6.3
Flounder, Starry	5	8	5.6
Perch, Pile	6	7	4.9
Mackerel, Pacific (Chub)	7	6	4.2
Sharks	8	5	3.5
Salmon, Chinook (King)	9	4	2.8
Surfperch, Walleye	10	2	1.4
Seaperch, White	11	2	1.4
Seaperch, Rubberlip	12	2	1.4
Seaperch, Rainbow	13	2	1.4
Unidentified Fishes	14	1	0.7
Lingcod	15	1	0.7
Surfperches	16	1	0.7
Seaperch, Striped	17	1	0.7
Surfperch, Silver	18	1	0.7
Total		142	100

C. CPUE

Catch per Angler Day = 1.78 Catch per Angler Hour = 0.51

Table 50. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 80
 Total Hours Effort for Anglers Intercepted = 280.5
 Total Hours Still to Fish (Incomplete Trips) = 4.1

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Goby, Yellowfin	1	32	31.7	0.00**	0.00
Sculpin, Pacific Staghorn	2	19	18.8	0.00**	0.00
Croaker, White	3	17	16.8	0.33	5.60
Perch, Pile	4	7	6.9	0.27	1.87
Flounder, Starry	5	7	6.9	0.15	1.05
Mackerel, Pacific (Chub)	6	6	5.9	0.21	1.27
Surfperch, Walleye	7	2	2.0	0.31	0.61
Seaperch, White	8	2	2.0	0.19	0.38
Seaperch, Rubberlip	9	2	2.0	1.14	2.27
Seaperch, Rainbow	10	2	2.0	0.13	0.26
Unidentified Fishes	11	1	1.0	0.00**	0.00
Salmon, Chinook (King)	12	1	1.0	2.90	2.90
Surfperches	13	1	1.0	0.39**	0.39
Seaperch, Striped	14	1	1.0	0.13	0.13
Surfperch, Silver	15	1	1.0	0.20	0.20
Total		101	100		16.95

C. CPUE

Catch per Angler Day = 1.26 Catch per Angler Hour = 0.36
 Kg per Angler Day = 0.21 Kg per Angler Hour = 0.06

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 51. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 80
 Total Hours Effort for Anglers Intercepted = 280.5
 Total Hours Still to Fish (Incomplete Trips) = 4.1

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Croaker, White	1	3.96	12	30.0	12	0.33	303	33
Salmon, Chinook (King)	2	2.90	1	2.5	1	2.90	675	0
Seaperch, Rubberlip	3	2.27	2	5.0	2	1.14	394	12
Perch, Pile	4	1.87	7	17.5	7	0.27	244	54
Flounder, Starry	5	1.05	7	17.5	7	0.15	242	15
Mackerel, Pacific (Chub)	6	0.64	3	7.5	3	0.21	258	20
Surfperch, Walleye	7	0.61	2	5.0	2	0.31	253	7
Seaperch, White	8	0.38	2	5.0	2	0.19	246	49
Seaperch, Rainbow	9	0.26	2	5.0	2	0.13	202	3
Surfperch, Silver	10	0.20	1	2.5	1	0.20	232	0
Seaperch, Striped	11	0.13	1	2.5	1	0.13	199	0
Total		14.27	40	100	40			

C. CPUE***

Catch per Angler Day = 0.50 Catch per Angler Hour = 0.14
 Kg per Angler Day = 0.18 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 52. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	32
Total Hours Effort for Anglers Intercepted	=	90.8
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Perch, Shiner	1	13	26.5
Goby, Yellowfin	2	13	26.5
Unidentified Fishes	3	10	20.4
Surfperches	4	3	6.1
Rockfishes (unidentified)	5	2	4.1
Rockfish, Brown	6	2	4.1
Surfperch, Walleye	7	2	4.1
Stingrays	8	1	2.0
Bass, Striped	9	1	2.0
Seaperch, Rubberlip	10	1	2.0
Surfperch, Barred	11	1	2.0
Total		49	100

C. CPUE

Catch per Angler Day	=	1.53	Catch per Angler Hour	=	0.54
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Table 53. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	32
Total Hours Effort for Anglers Intercepted	=	90.8
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Goby, Yellowfin	1	12	37.5	0.00**	0.00
Perch, Shiner	2	11	34.4	0.01	0.16
Unidentified Fishes	3	2	6.3	0.00**	0.00
Rockfish, Brown	4	2	6.3	0.00**	0.00
Surfperch, Walleye	5	2	6.3	0.54	1.08
Bass, Striped	6	1	3.1	3.31	3.31
Seaperch, Rubberlip	7	1	3.1	0.20	0.20
Surfperch, Barred	8	1	3.1	0.07	0.07
Total		32	100		4.82

C. CPUE

Catch per Angler Day	=	1.00	Catch per Angler Hour	=	0.35
Kg per Angler Day	=	0.15	Kg per Angler Hour	=	0.05

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 54. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 32
 Total Hours Effort for Anglers Intercepted = 90.8
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Bass, Striped	1	3.31	1	10.0	1	3.31	834	0
Surfperch, Walleye	2	1.08	2	20.0	2	0.54	294	26
Seaperch, Rubberlip	3	0.20	1	10.0	1	0.20	218	0
Surfperch, Barred	4	0.07	1	10.0	1	0.07	160	0
Perch, Shiner	5	0.07	5	50.0	5	0.01	103	12
Total		4.74	10	100	10			

C. CPUE***

Catch per Angler Day = 0.31 Catch per Angler Hour = 0.11
 Kg per Angler Day = 0.15 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 55. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 70
 Total Hours Effort for Anglers Intercepted = 224.5
 Total Hours Still to Fish (Incomplete Trips) = 24.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Goby, Yellowfin	1	28	26.4
Unidentified Fishes	2	14	13.2
Perch, Black	3	14	13.2
Perch, Pile	4	12	11.3
Surfperches	5	9	8.5
Sculpin, Pacific Staghorn	6	8	7.5
Seaperch, White	7	4	3.8
Jacksmelt	8	3	2.8
Perch, Shiner	9	3	2.8
Bass, Striped	10	2	1.9
Seaperch, Rubberlip	11	2	1.9
Prickleback, Monkeyface	12	2	1.9
Sharks	13	1	0.9
Stingrays	14	1	0.9
Ray, Bat	15	1	0.9
Cabezon	16	1	0.9
Flounder, Starry	17	1	0.9
Total		106	100

C. CPUE

Catch per Angler Day = 1.51 Catch per Angler Hour = 0.47

Table 56. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 70
 Total Hours Effort for Anglers Intercepted = 224.5
 Total Hours Still to Fish (Incomplete Trips) = 24.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Goby, Yellowfin	1	28	37.8	0.04	1.12
Perch, Black	2	14	18.9	0.24	3.34
Perch, Pile	3	12	16.2	0.62	7.45
Sculpin, Pacific Staghorn	4	6	8.1	0.00**	0.00
Seaperch, White	5	4	5.4	0.24	0.97
Bass, Striped	6	2	2.7	1.13	2.27
Surfperches	7	2	2.7	0.47**	0.94
Perch, Shiner	8	2	2.7	0.03	0.05
Prickleback, Monkeyface	9	2	2.7	0.00**	0.00
Ray, Bat	10	1	1.4	0.00**	0.00
Flounder, Starry	11	1	1.4	1.07	1.07
Total		74	100		17.20

C. CPUE

Catch per Angler Day = 1.06 Catch per Angler Hour = 0.33
 Kg per Angler Day = 0.25 Kg per Angler Hour = 0.08

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 57. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 70
 Total Hours Effort for Anglers Intercepted = 224.5
 Total Hours Still to Fish (Incomplete Trips) = 24.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Perch, Pile	1	7.45	12	22.6	16	0.62	330	43
Perch, Black	2	3.34	14	26.4	13	0.24	229	41
Bass, Striped	3	2.27	2	3.8	2	1.13	577	18
Flounder, Starry	4	1.07	1	1.9	1	1.07	436	0
Seaperch, White	5	0.97	4	7.5	4	0.24	272	4
Goby, Yellowfin	6	0.64	16	30.2	11	0.04	172	11
Perch, Shiner	7	0.05	2	3.8	2	0.03	125	13
Prickleback, Monkeyface	8	0.00	2	3.8	2	0.00	523	28
Total		15.78	53	100	51			

C. CPUE***

Catch per Angler Day = 0.76 Catch per Angler Hour = 0.24
 Kg per Angler Day = 0.23 Kg per Angler Hour = 0.07

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 58. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	163
Total Hours Effort for Anglers Intercepted	=	788.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Bass, Striped	1	77	22.8
Sharks	2	65	19.2
Sturgeons (general)	3	40	11.8
Surfperches	4	26	7.7
Flounder, Starry	5	24	7.1
Skates	6	16	4.7
Shark, Leopard	7	15	4.4
Bonito, Pacific	8	15	4.4
Sculpin, Pacific Staghorn	9	14	4.1
Stingrays	10	9	2.7
Perch, Pile	11	9	2.7
Perch, Black	12	7	2.1
Rockfish, Brown	13	6	1.8
Sturgeon, Green	14	5	1.5
Sturgeon, White	15	2	0.6
Halibut, California	16	2	0.6
Unidentified Fishes	17	1	0.3
Shark, Sevengill	18	1	0.3
Smoothhound, Brown	19	1	0.3
Skates (general)	20	1	0.3
Croaker, White	21	1	0.3
Sierra, Gulf	22	1	0.3
Total		338	100

C. CPUE

Catch per Angler Day = 2.07 Catch per Angler Hour = 0.43

Table 59. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	163
Total Hours Effort for Anglers Intercepted	=	788.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Bass, Striped	1	39	30.5	1.88	73.40
Shark, Leopard	2	14	10.9	5.23	73.22
Surfperches	3	14	10.9	0.42**	5.88
Flounder, Starry	4	11	8.6	4.90	53.90
Perch, Pile	5	9	7.0	0.54	4.87
Sturgeons (general)	6	7	5.5	18.59	130.13
Perch, Black	7	7	5.5	0.27	1.88
Rockfish, Brown	8	6	4.7	0.13	0.77
Bonito, Pacific	9	6	4.7	1.60	9.58
Sturgeon, Green	10	5	3.9	10.60	53.01
Sculpin, Pacific Staghorn	11	3	2.3	0.00**	0.00
Sturgeon, White	12	2	1.6	13.59	27.17
Unidentified Fishes	13	1	0.8	0.00**	0.00
Shark, Sevengill	14	1	0.8	0.00**	0.00
Smoothhound, Brown	15	1	0.8	6.52	6.52
Sierra, Gulf	16	1	0.8	0.00**	0.00
Halibut, California	17	1	0.8	2.70	2.70
Total		128	100		443.04

C. CPUE

Catch per Angler Day	=	0.79	Catch per Angler Hour	=	0.16
Kg per Angler Day	=	2.72	Kg per Angler Hour	=	0.56

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 60. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 163
 Total Hours Effort for Anglers Intercepted = 788.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Sturgeons (general)	1	130.13	7	7.0	6	18.59	1384	193
Bass, Striped	2	65.87	35	35.0	34	1.88	667	121
Shark, Leopard	3	57.53	11	11.0	11	5.23	803	143
Sturgeon, Green	4	53.01	5	5.0	5	10.60	1180	126
Flounder, Starry	5	39.20	8	8.0	8	4.90	552	280
Sturgeon, White	6	27.17	2	2.0	2	13.59	1283	58
Bonito, Pacific	7	9.58	6	6.0	6	1.60	492	32
Smoothhound, Brown	8	6.52	1	1.0	1	6.52	890	0
Perch, Pile	9	4.87	9	9.0	9	0.54	318	33
Halibut, California	10	2.70	1	1.0	1	2.70	636	0
Perch, Black	11	1.88	7	7.0	7	0.27	242	36
Rockfish, Brown	12	0.77	6	6.0	6	0.13	190	16
Unidentified Fishes	13	0.00	1	1.0	1	0.00	0	0
Sierra, Gulf	14	0.00	1	1.0	1	0.00	276	0
Total		399.24	100	100	98			

C. CPUE***

Catch per Angler Day = 0.61 Catch per Angler Hour = 0.13
 Kg per Angler Day = 2.45 Kg per Angler Hour = 0.51

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 61. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	11
Total Hours Effort for Anglers Intercepted	=	74.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfishes (unidentified)	1	15	50.0
Sturgeons (general)	2	8	26.7
Bass, Striped	3	6	20.0
Flounder, Starry	4	1	3.3
Total		30	100

C. CPUE

Catch per Angler Day	=	2.73	Catch per Angler Hour	=	0.41
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Table 62. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 11
 Total Hours Effort for Anglers Intercepted = 74.0
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfishes (unidentified)	1	15	62.5	0.00**	0.00
Bass, Striped	2	6	25.0	2.17	13.04
Sturgeons (general)	3	2	8.3	12.49	24.98
Flounder, Starry	4	1	4.2	0.46	0.46
Total		24	100		38.49

C. CPUE

Catch per Angler Day = 2.18 Catch per Angler Hour = 0.32
 Kg per Angler Day = 3.50 Kg per Angler Hour = 0.52

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 63. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 11
 Total Hours Effort for Anglers Intercepted = 74.0
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Sturgeons (general)	1	24.98	2	22.2	2	12.49	1230	221
Bass, Striped	2	13.04	6	66.7	6	2.17	718	56
Flounder, Starry	3	0.46	1	11.1	1	0.46	339	0
Total		38.49	9	100	9			

C. CPUE***

Catch per Angler Day = 0.82 Catch per Angler Hour = 0.12
 Kg per Angler Day = 3.50 Kg per Angler Hour = 0.52

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 64. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	65
Total Hours Effort for Anglers Intercepted	=	183.5
Total Hours Still to Fish (Incomplete Trips)	=	19.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Mackerel, Pacific (Chub)	1	80	42.1
Surfperch, Barred	2	20	10.5
Croaker, White	3	18	9.5
Jacksmelt	4	13	6.8
Sculpin, Pacific Staghorn	5	10	5.3
Unidentified Fishes	6	9	4.7
Surfperches	7	9	4.7
Sole, Sand	8	9	4.7
Surfperch, Walleye	9	5	2.6
Surfperch, Silver	10	5	2.6
Flatfishes	11	4	2.1
Smelts	12	2	1.1
Seaperch, White	13	2	1.1
Bonito, Pacific	14	2	1.1
Jack Mackerel	15	1	0.5
Sanddab, Pacific	16	1	0.5
Total		190	100

C. CPUE

Catch per Angler Day = 2.92 Catch per Angler Hour = 1.04

Table 65. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 65
 Total Hours Effort for Anglers Intercepted = 183.5
 Total Hours Still to Fish (Incomplete Trips) = 19.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Mackerel, Pacific (Chub)	1	77	46.4	0.18	14.16
Surfperch, Barred	2	19	11.4	0.08	1.45
Croaker, White	3	18	10.8	0.15	2.69
Unidentified Fishes	4	9	5.4	0.00**	0.00
Sole, Sand	5	9	5.4	0.13	1.16
Surfperches	6	6	3.6	0.09**	0.54
Sculpin, Pacific Staghorn	7	5	3.0	0.00**	0.00
Surfperch, Walleye	8	5	3.0	0.11	0.55
Surfperch, Silver	9	5	3.0	0.11	0.54
Flatfishes	10	4	2.4	0.00**	0.00
Jacksmelt	11	3	1.8	0.29	0.87
Seaperch, White	12	2	1.2	0.16	0.33
Bonito, Pacific	13	2	1.2	0.00**	0.00
Jack Mackerel	14	1	0.6	0.17	0.17
Sanddab, Pacific	15	1	0.6	0.00**	0.00
Total		166	100		22.45

C. CPUE

Catch per Angler Day = 2.55 Catch per Angler Hour = 0.90
 Kg per Angler Day = 0.35 Kg per Angler Hour = 0.12

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 66. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 65
 Total Hours Effort for Anglers Intercepted = 183.5
 Total Hours Still to Fish (Incomplete Trips) = 19.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Mackerel, Pacific (Chub)	1	12.51	68	58.1	28	0.18	246	20
Croaker, White	2	2.24	15	12.8	15	0.15	233	32
Surfperch, Barred	3	1.22	16	13.7	12	0.08	152	37
Jacksmelt	4	0.58	2	1.7	2	0.29	336	1
Surfperch, Walleye	5	0.55	5	4.3	5	0.11	185	34
Surfperch, Silver	6	0.54	5	4.3	5	0.11	178	56
Sole, Sand	7	0.39	3	2.6	3	0.13	222	18
Seaperch, White	8	0.33	2	1.7	2	0.16	239	12
Jack Mackerel	9	0.17	1	0.9	1	0.17	245	0
Total		18.52	117	100	73			

C. CPUE***

Catch per Angler Day = 1.80 Catch per Angler Hour = 0.64
 Kg per Angler Day = 0.28 Kg per Angler Hour = 0.10

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 67. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	33
Total Hours Effort for Anglers Intercepted	=	98.5
Total Hours Still to Fish (Incomplete Trips)	=	5.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Unidentified Fishes	1	3	18.8
Surfperch, Barred	2	3	18.8
Jacksmelt	3	2	12.5
Surfperch, Walleye	4	2	12.5
Flounder, Starry	5	2	12.5
Sculpin, Pacific Staghorn	6	1	6.3
Surfperches	7	1	6.3
Sanddab, Pacific	8	1	6.3
Flounders, Righteye	9	1	6.3
Total		16	100

C. CPUE

Catch per Angler Day	=	0.48	Catch per Angler Hour	=	0.16
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Table 68. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	33
Total Hours Effort for Anglers Intercepted	=	98.5
Total Hours Still to Fish (Incomplete Trips)	=	5.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Unidentified Fishes	1	3	21.4	0.00**	0.00
Surfperch, Barred	2	3	21.4	0.19	0.56
Jacksmelt	3	2	14.3	0.43	0.86
Surfperch, Walleye	4	2	14.3	0.17	0.33
Flounder, Starry	5	2	14.3	0.31	0.61
Sculpin, Pacific Staghorn	6	1	7.1	0.00**	0.00
Sanddab, Pacific	7	1	7.1	0.00**	0.00
Total		14	100		2.37

C. CPUE

Catch per Angler Day	=	0.42	Catch per Angler Hour	=	0.14
Kg per Angler Day	=	0.07	Kg per Angler Hour	=	0.02

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 69. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 33
 Total Hours Effort for Anglers Intercepted = 98.5
 Total Hours Still to Fish (Incomplete Trips) = 5.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Jacksmelt	1	0.86	2	28.6	2	0.43	376	28
Surfperch, Barred	2	0.38	2	28.6	2	0.19	216	8
Surfperch, Walleye	3	0.33	2	28.6	2	0.17	215	7
Flounder, Starry	4	0.31	1	14.3	1	0.31	300	0
Total		1.87	7	100	7			

C. CPUE***

Catch per Angler Day = 0.21 Catch per Angler Hour = 0.07
 Kg per Angler Day = 0.06 Kg per Angler Hour = 0.02

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 70. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	147
Total Hours Effort for Anglers Intercepted	=	437.5
Total Hours Still to Fish (Incomplete Trips)	=	23.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Barred	1	223	60.6
Surfperches	2	88	23.9
Surfperch, Walleye	3	27	7.3
Unidentified Fishes	4	8	2.2
Bass, Striped	5	6	1.6
Surfperch, Silver	6	6	1.6
Flounder, Starry	7	2	0.5
Shark, Leopard	8	1	0.3
Rockfish, Brown	9	1	0.3
Rockfish, Black-and-yellow	10	1	0.3
Sculpin, Pacific Staghorn	11	1	0.3
Cabazon	12	1	0.3
Seaperch, White	13	1	0.3
Surfperch, Redtail	14	1	0.3
Sole, Sand	15	1	0.3
Total		368	100

C. CPUE

Catch per Angler Day = 2.50 Catch per Angler Hour = 0.84

Table 71. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 147
 Total Hours Effort for Anglers Intercepted = 437.5
 Total Hours Still to Fish (Incomplete Trips) = 23.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Barred	1	221	79.2	0.26	56.93
Surfperch, Walleye	2	27	9.7	0.10	2.83
Surfperches	3	11	3.9	0.24**	2.64
Surfperch, Silver	4	6	2.2	0.10	0.58
Bass, Striped	5	5	1.8	1.41	7.07
Flounder, Starry	6	2	0.7	0.37	0.74
Shark, Leopard	7	1	0.4	5.01	5.01
Rockfish, Brown	8	1	0.4	0.20	0.20
Rockfish, Black-and-yellow	9	1	0.4	0.42	0.42
Cabazon	10	1	0.4	0.30	0.30
Seaperch, White	11	1	0.4	0.18	0.18
Surfperch, Redtail	12	1	0.4	0.31	0.31
Sole, Sand	13	1	0.4	0.09	0.09
Total		279	100		77.28

C. CPUE

Catch per Angler Day = 1.90 Catch per Angler Hour = 0.64
 Kg per Angler Day = 0.53 Kg per Angler Hour = 0.18

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 72. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 147
 Total Hours Effort for Anglers Intercepted = 437.5
 Total Hours Still to Fish (Incomplete Trips) = 23.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Barred	1	52.81	205	81.3	189	0.26	228	50
Bass, Striped	2	7.07	5	2.0	5	1.41	590	155
Shark, Leopard	3	5.01	1	0.4	1	5.01	812	0
Surfperch, Walleye	4	2.83	27	10.7	17	0.10	182	34
Flounder, Starry	5	0.74	2	0.8	2	0.37	316	27
Surfperch, Silver	6	0.58	6	2.4	6	0.10	184	8
Rockfish, Black-and-yellow	7	0.42	1	0.4	1	0.42	280	0
Surfperch, Redtail	8	0.31	1	0.4	1	0.31	264	0
Cabazon	9	0.30	1	0.4	1	0.30	253	0
Rockfish, Brown	10	0.20	1	0.4	1	0.20	221	0
Seaperch, White	11	0.18	1	0.4	1	0.18	244	0
Sole, Sand	12	0.09	1	0.4	1	0.09	200	0
Total		70.51	252	100	226			

C. CPUE***

Catch per Angler Day = 1.71 Catch per Angler Hour = 0.58
 Kg per Angler Day = 0.48 Kg per Angler Hour = 0.16

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 73. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	193
Total Hours Effort for Anglers Intercepted	=	803.2
Total Hours Still to Fish (Incomplete Trips)	=	3.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	348	21.5
Rockfishes (unidentified)	2	226	14.0
Mackerel, Pacific (Chub)	3	202	12.5
Sanddab, Pacific	4	147	9.1
Rockfish, Olive	5	117	7.2
Bonito, Pacific	6	110	6.8
Rockfish, Rosy	7	85	5.3
Croaker, White	8	66	4.1
Unidentified Fishes	9	61	3.8
Rockfish, Gopher	10	45	2.8
Rockfish, Brown	11	42	2.6
Rockfish, Yellowtail	12	34	2.1
Rockfish, Copper	13	15	0.9
Lingcod	14	14	0.9
Rockfish, Greenspotted	15	12	0.7
Rockfish, Black-and-yellow	16	11	0.7
Rockfish, Canary	17	10	0.6
Rockfish, Kelp	18	9	0.6
Jacksmelt	19	8	0.5
Rockfish, Vermilion	20	8	0.5
Rockfish, Starry	21	8	0.5
Rockfish, Speckled	22	7	0.4
Jack Mackerel	23	7	0.4
Bass, Kelp	24	4	0.2
Rockfish, Quillback	25	3	0.2
Flounder, Starry	26	3	0.2

{Table 73. - continued)

Common name	Rank by Number	Number Caught	% by Number
Bocaccio	27	2	0.1
Cabazon	28	2	0.1
Sunfish, Ocean	29	2	0.1
Spiny Dogfish	30	1	0.1
Skate, Big	31	1	0.1
Rockfish, Yelloweye	32	1	0.1
Greenling, Kelp	33	1	0.1
Halfmoon	34	1	0.1
Surfperches	35	1	0.1
Barracuda, Pacific	36	1	0.1
Flounders, Lefteye	37	1	0.1
Halibut, California	38	1	0.1
Sole, Rock	39	1	0.1
Total		1618	100

C. CPUE

Catch per Angler Day = 8.38 Catch per Angler Hour = 2.01

Table 74. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	193
Total Hours Effort for Anglers Intercepted	=	803.2
Total Hours Still to Fish (Incomplete Trips)	=	3.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	297	22.0	0.45	134.13
Rockfishes (unidentified)	2	162	12.0	0.52**	84.24
Mackerel, Pacific (Chub)	3	149	11.0	0.31	46.75
Sanddab, Pacific	4	146	10.8	0.14	20.63
Rockfish, Olive	5	117	8.7	0.72	84.76
Bonito, Pacific	6	93	6.9	2.43	225.69
Rockfish, Rosy	7	85	6.3	0.18	14.97
Rockfish, Brown	8	42	3.1	0.76	32.12
Rockfish, Gopher	9	41	3.0	0.40	16.28
Croaker, White	10	39	2.9	0.21	8.03
Rockfish, Yellowtail	11	32	2.4	0.78	24.90
Unidentified Fishes	12	17	1.3	0.00**	0.00
Rockfish, Copper	13	15	1.1	0.68	10.14
Lingcod	14	13	1.0	2.82	36.72
Rockfish, Greenspotted	15	12	0.9	0.56	6.66
Rockfish, Black-and-yellow	16	11	0.8	0.39	4.26
Rockfish, Canary	17	10	0.7	0.35	3.45
Rockfish, Kelp	18	9	0.7	0.38	3.46
Jacksmelt	19	8	0.6	0.37	2.99
Rockfish, Vermilion	20	8	0.6	1.13	9.02
Rockfish, Starry	21	8	0.6	0.65	5.21
Rockfish, Speckled	22	7	0.5	0.57	3.98
Jack Mackerel	23	7	0.5	0.24	1.66
Bass, Kelp	24	4	0.3	1.28	5.13
Rockfish, Quillback	25	3	0.2	1.14	3.43
Flounder, Starry	26	3	0.2	2.05	6.14
Bocaccio	27	2	0.1	2.29	4.58

(Table 74. - continued)

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Cabazon	28	2	0.1	2.18	4.36
Sunfish, Ocean	29	2	0.1	0.00**	0.00
Spiny Dogfish	30	1	0.1	2.54	2.54
Skate, Big	31	1	0.1	14.47	14.47
Rockfish, Yelloweye	32	1	0.1	0.51	0.51
Greenling, Kelp	33	1	0.1	0.44	0.44
Halfmoon	34	1	0.1	0.57	0.57
Surfperches	35	1	0.1	0.00**	0.00
Halibut, California	36	1	0.1	1.38	1.38
Sole, Rock	37	1	0.1	0.49	0.49
Total		1352	100		824.06

C. CPUE

Catch per Angler Day = 7.01 Catch per Angler Hour = 1.68
 Kg per Angler Day = 4.27 Kg per Angler Hour = 1.03

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 75. Sampled Effort, Ranked Catch and CPUE for Area 4
in 1983 for Quarter 4, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents Only the Fish
Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 193
Total Hours Effort for Anglers Intercepted = 803.2
Total Hours Still to Fish (Incomplete Trips) = 3.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Bonito, Pacific	1	211.13	87	7.9	82	2.43	557	67
Rockfish, Blue	2	128.26	284	25.8	229	0.45	303	44
Rockfish, Olive	3	84.76	117	10.6	95	0.72	374	54
Lingcod	4	36.72	13	1.2	13	2.82	628	85
Mackerel, Pacific (Chub)	5	33.57	107	9.7	76	0.31	280	51
Rockfish, Brown	6	32.12	42	3.8	33	0.76	339	67
Rockfish, Yellowtail	7	19.45	25	2.3	25	0.78	363	78
Sanddab, Pacific	8	17.38	123	11.2	43	0.14	229	36
Rockfish, Gopher	9	16.28	41	3.7	41	0.40	289	28
Rockfish, Rosy	10	14.97	85	7.7	40	0.18	218	26
Skate, Big	11	14.47	1	0.1	1	14.47	1185	0
Rockfish, Copper	12	10.14	15	1.4	15	0.68	310	89
Croaker, White	13	8.03	39	3.5	32	0.21	261	23
Rockfish, Vermilion	14	6.77	6	0.5	6	1.13	386	115
Rockfish, Greenspotted	15	6.66	12	1.1	12	0.56	316	61
Flounder, Starry	16	6.14	3	0.3	3	2.05	524	63
Rockfish, Starry	17	5.21	8	0.7	8	0.65	336	40
Bass, Kelp	18	5.13	4	0.4	4	1.28	449	18
Bocaccio	19	4.58	2	0.2	2	2.29	592	89
Cabazon	20	4.36	2	0.2	2	2.18	517	80
Rockfish, Black-and-yellow	21	4.26	11	1.0	11	0.39	272	21
Rockfish, Speckled	22	3.98	7	0.6	7	0.57	335	55
Rockfish, Kelp	23	3.46	9	0.8	9	0.38	294	18
Rockfish, Canary	24	3.45	10	0.9	10	0.35	283	42
Rockfish, Quillback	25	3.43	3	0.3	3	1.14	356	142
Jacksmelt	26	2.99	8	0.7	4	0.37	358	37

(Table 75. - continued)

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Spiny Dogfish	27	2.54	1	0.1	1	2.54	900	0
Jack Mackerel	28	1.66	7	0.6	7	0.24	272	18
Halibut, California	29	1.38	1	0.1	1	1.38	510	0
Halfmoon	30	0.57	1	0.1	1	0.57	330	0
Rockfish, Yelloweye	31	0.51	1	0.1	1	0.51	305	0
Sole, Rock	32	0.49	1	0.1	1	0.49	332	0
Greenling, Kelp	33	0.44	1	0.1	1	0.44	315	0
Unidentified Fishes	34	0.00	17	1.5	10	0.00	0	0
Rockfishes (unidentified)	35	0.00	5	0.5	0	0.00	0	0
Surfperches	36	0.00	1	0.1	1	0.00	0	0
Sunfish, Ocean	37	0.00	2	0.2	2	0.00	488	25
Total		695.26	1102	100	832			

C. CPUE***

Catch per Angler Day = 5.71 Catch per Angler Hour = 1.37
 Kg per Angler Day = 3.60 Kg per Angler Hour = 0.87

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 76. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Spear Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	6
Total Hours Effort for Anglers Intercepted	=	5.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfishes (unidentified)	1	7	50.0
Cabazon	2	4	28.6
Rockfish, Kelp	3	2	14.3
Unidentified Fishes	4	1	7.1
Total		14	100

C. CPUE

Catch per Angler Day = 2.33 Catch per Angler Hour = 2.55

Table 77. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Spear Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	6
Total Hours Effort for Anglers Intercepted	=	5.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfishes (unidentified)	1	7	50.0	0.55**	3.85
Cabazon	2	4	28.6	1.24	4.98
Rockfish, Kelp	3	2	14.3	0.55	1.10
Unidentified Fishes	4	1	7.1	0.00**	0.00
Total		14	100		9.93

C. CPUE

Catch per Angler Day	=	2.33	Catch per Angler Hour	=	2.55
Kg per Angler Day	=	1.66	Kg per Angler Hour	=	1.81

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 78. Sampled Effort, Ranked Catch and CPUE for Area 4
in 1983 for Quarter 4, by Private or Rental Boat Anglers Using
Spear Gear. Catch Represents Only the Fish
Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 6
Total Hours Effort for Anglers Intercepted = 5.5
Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Cabezon	1	4.98	4	57.1	4	1.24	413	87
Rockfish, Kelp	2	1.10	2	28.6	1	0.55	335	0
Unidentified Fishes	3	0.00	1	14.3	1	0.00	315	0
Total		6.08	7	100	6			

C. CPUE***

Catch per Angler Day = 1.17 Catch per Angler Hour = 1.27
Kg per Angler Day = 1.01 Kg per Angler Hour = 1.11

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 79. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	37
Total Hours Effort for Anglers Intercepted	=	163.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Sanddab, Pacific	1	162	24.4
Rockfish, Blue	2	129	19.4
Bocaccio	3	83	12.5
Rockfish, Yellowtail	4	56	8.4
Lingcod	5	56	8.4
Mackerel, Pacific (Chub)	6	39	5.9
Rockfish, Widow	7	26	3.9
Rockfish, Rosy	8	20	3.0
Rockfishes (unidentified)	9	19	2.9
Rockfish, Canary	10	13	2.0
Rockfish, Starry	11	13	2.0
Rockfish, Greenstriped	12	12	1.8
Rockfish, Olive	13	8	1.2
Rockfish, Speckled	14	7	1.1
Rockfish, Greenspotted	15	6	0.9
Rockfish, Rosethorn	16	3	0.5
Rockfish, Yelloweye	17	2	0.3
Cowcod	18	2	0.3
Rockfish, Flag	19	2	0.3
Rockfish, Brown	20	1	0.2
Rockfish, Copper	21	1	0.2
Rockfish, Quillback	22	1	0.2
Rockfish, Stripetail	23	1	0.2
Bonito, Pacific	24	1	0.2
Sole, Rock	25	1	0.2
Total		664	100

C. CPUE

Catch per Angler Day	=	17.95	Catch per Angler Hour	=	4.07
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Table 80. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 37
 Total Hours Effort for Anglers Intercepted = 163.0
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Sanddab, Pacific	1	162	25.7	0.15	24.29
Rockfish, Blue	2	117	18.6	0.54	62.63
Bocaccio	3	83	13.2	2.16	178.90
Rockfish, Yellowtail	4	56	8.9	0.98	54.92
Lingcod	5	50	7.9	3.51	175.65
Mackerel, Pacific (Chub)	6	37	5.9	0.52	19.22
Rockfish, Widow	7	26	4.1	0.79	20.65
Rockfish, Rosy	8	20	3.2	0.53	10.58
Rockfish, Canary	9	13	2.1	1.02	13.25
Rockfish, Starry	10	13	2.1	0.76	9.87
Rockfish, Greenstriped	11	12	1.9	0.24	2.91
Rockfish, Olive	12	8	1.3	1.15	9.20
Rockfish, Speckled	13	7	1.1	0.78	5.46
Rockfish, Greenspotted	14	6	1.0	0.67	4.04
Rockfishes (unidentified)	15	5	0.8	1.04**	5.20
Rockfish, Rosethorn	16	3	0.5	0.29	0.88
Rockfish, Yelloweye	17	2	0.3	1.36	2.72
Cowcod	18	2	0.3	4.31	8.61
Rockfish, Flag	19	2	0.3	0.65	1.31
Rockfish, Brown	20	1	0.2	0.34	0.34
Rockfish, Copper	21	1	0.2	1.94	1.94
Rockfish, Quillback	22	1	0.2	1.46	1.46
Rockfish, Stripetail	23	1	0.2	0.34	0.34
Bonito, Pacific	24	1	0.2	2.75	2.75
Sole, Rock	25	1	0.2	0.68	0.68
Total		630	100		617.78

C. CPUE

Catch per Angler Day = 17.03 Catch per Angler Hour = 3.87
 Kg per Angler Day = 16.70 Kg per Angler Hour = 3.79

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 81. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 37
 Total Hours Effort for Anglers Intercepted = 163.0
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Bocaccio	1	178.90	83	18.7	78	2.16	575	84
Lingcod	2	172.14	49	11.0	49	3.51	675	92
Rockfish, Blue	3	57.27	107	24.1	100	0.54	325	33
Rockfish, Yellowtail	4	51.00	52	11.7	52	0.98	400	58
Rockfish, Widow	5	20.65	26	5.9	26	0.79	381	59
Rockfish, Canary	6	13.25	13	2.9	13	1.02	405	53
Rockfish, Rosy	7	10.58	20	4.5	18	0.53	258	117
Rockfish, Olive	8	9.20	8	1.8	8	1.15	435	60
Rockfish, Starry	9	9.11	12	2.7	12	0.76	354	31
Cowcod	10	8.61	2	0.5	2	4.31	640	37
Rockfish, Speckled	11	5.46	7	1.6	7	0.78	376	31
Rockfish, Greenspotted	12	4.04	6	1.4	6	0.67	341	57
Sanddab, Pacific	13	3.75	25	5.6	25	0.15	238	18
Mackerel, Pacific (Chub)	14	3.12	6	1.4	6	0.52	329	54
Rockfish, Greenstriped	15	2.91	12	2.7	12	0.24	275	29
Bonito, Pacific	16	2.75	1	0.2	1	2.75	588	0
Rockfish, Yelloweye	17	2.72	2	0.5	2	1.36	383	175
Rockfish, Copper	18	1.94	1	0.2	1	1.94	472	0
Rockfish, Quillback	19	1.46	1	0.2	1	1.46	420	0
Rockfish, Flag	20	1.31	2	0.5	2	0.65	335	49
Rockfish, Rosethorn	21	0.88	3	0.7	3	0.29	262	5
Sole, Rock	22	0.68	1	0.2	1	0.68	370	0
Rockfish, Brown	23	0.34	1	0.2	1	0.34	267	0
Rockfish, Stripetail	24	0.34	1	0.2	1	0.34	290	0
Rockfishes (unidentified)	25	0.00	3	0.7	0	0.00	0	0
Total		562.39	444	100	427			

C. CPUE***

Catch per Angler Day = 12.00 Catch per Angler Hour = 2.72
 Kg per Angler Day = 15.20 Kg per Angler Hour = 3.45

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 4. Length-Frequency Histogram for Pacific (Chub) Mackerel
Taken by Pier or Dock Anglers Using Hook-and-Line Gear.
Area 4, Quarter 4, 1983.

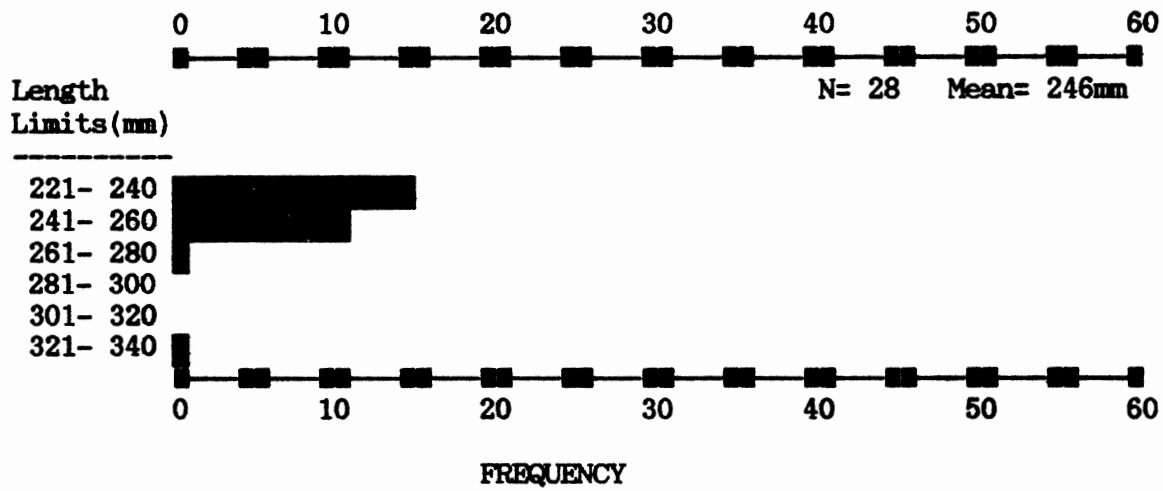


Figure 5. Length-Frequency Histogram for Barred Surfperch
 Taken by Beach and Bank Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 4, 1983.

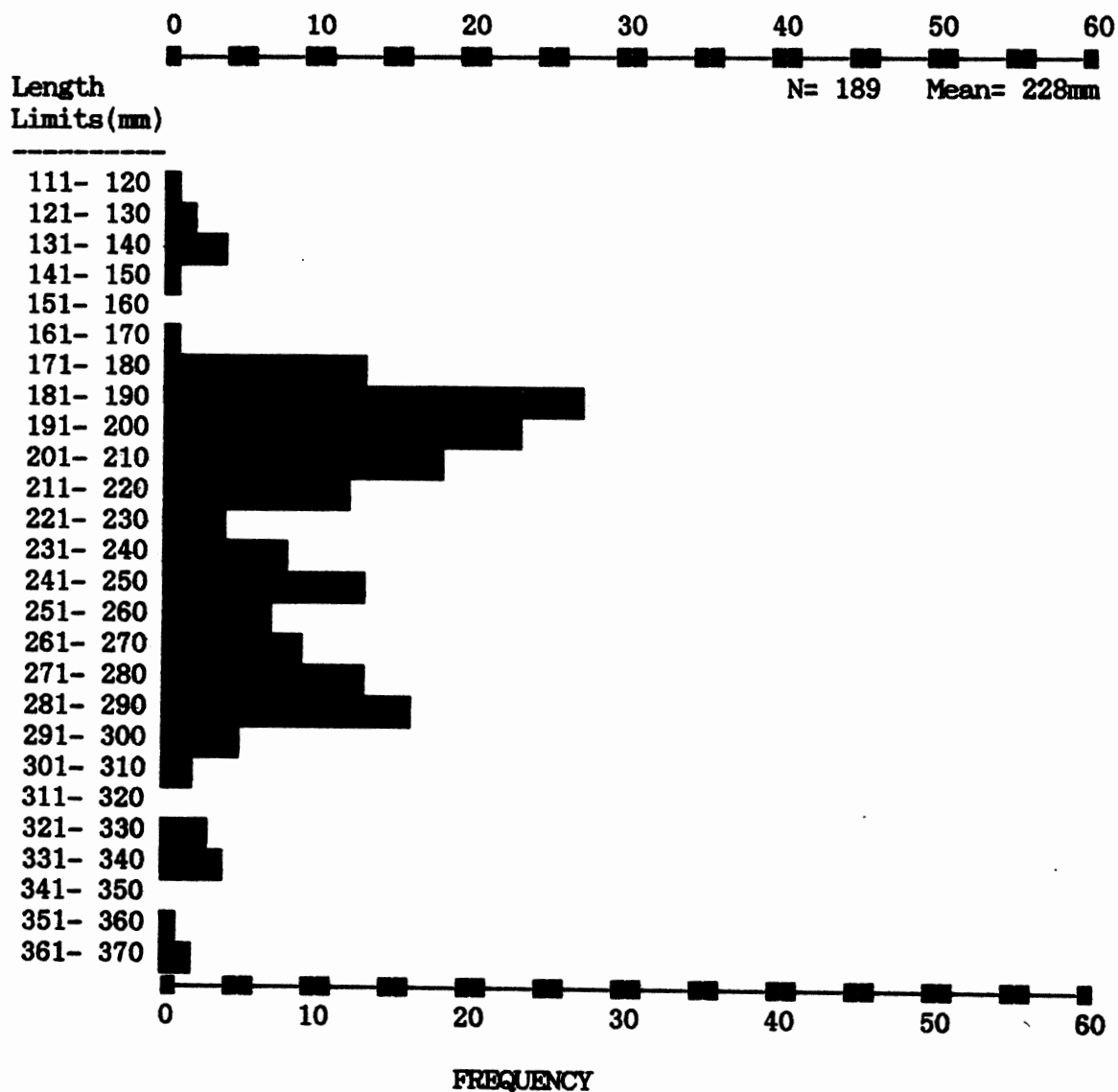


Figure 6. Length-Frequency Histogram for Pacific Bonito
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 4, 1983.

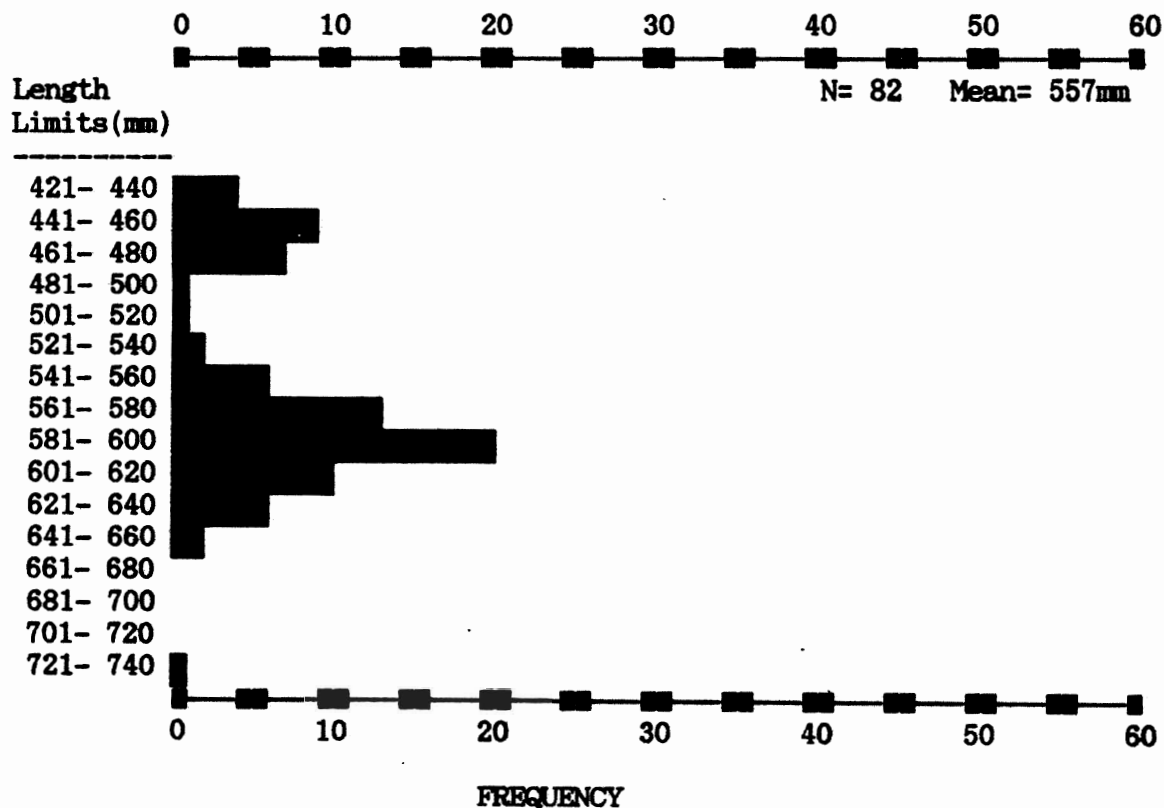


Figure 7. Length-Frequency Histogram for Pacific (Chub) Mackerel
Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
Area 4, Quarter 4, 1983.

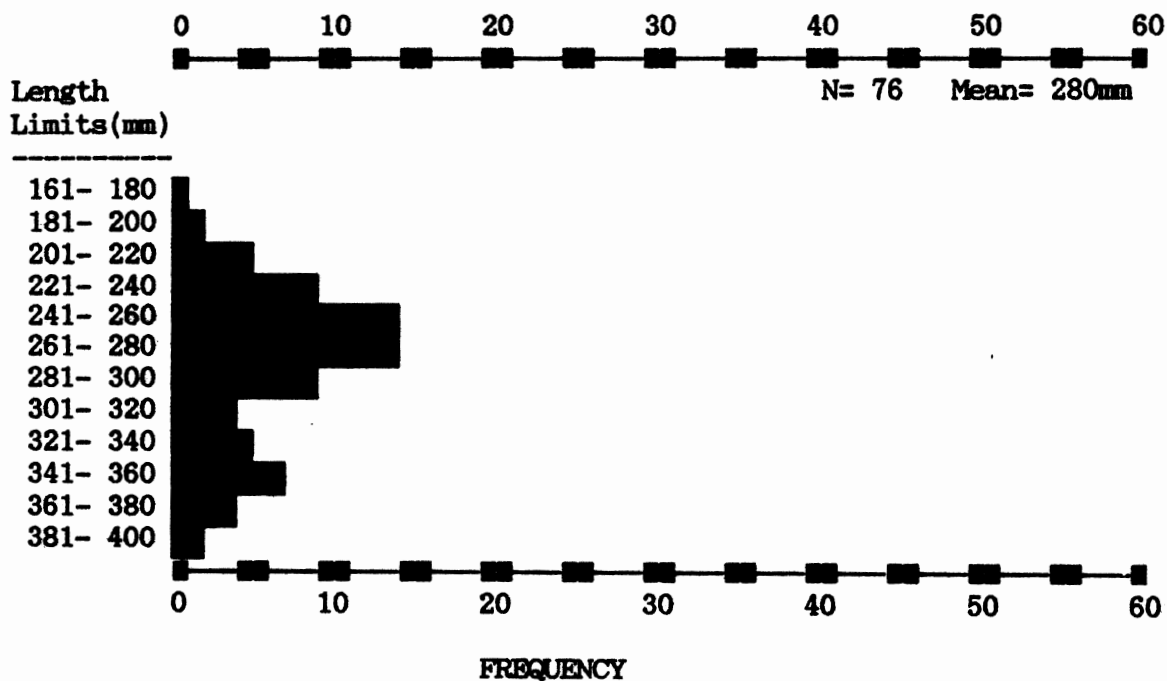


Figure 8. Length-Frequency Histogram for Blue Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 4, 1983.

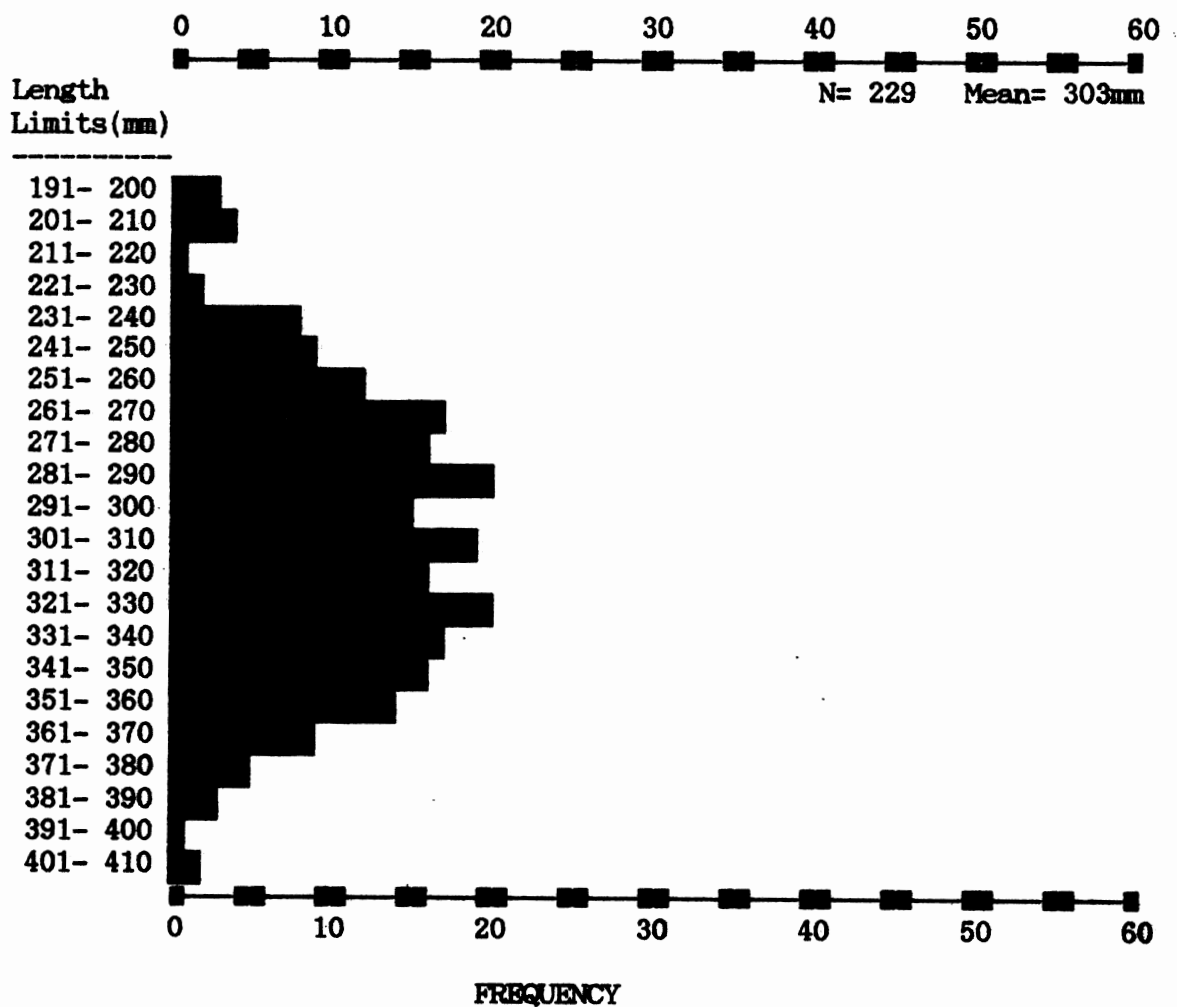


Figure 9. Length-Frequency Histogram for Olive Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 4, 1983.

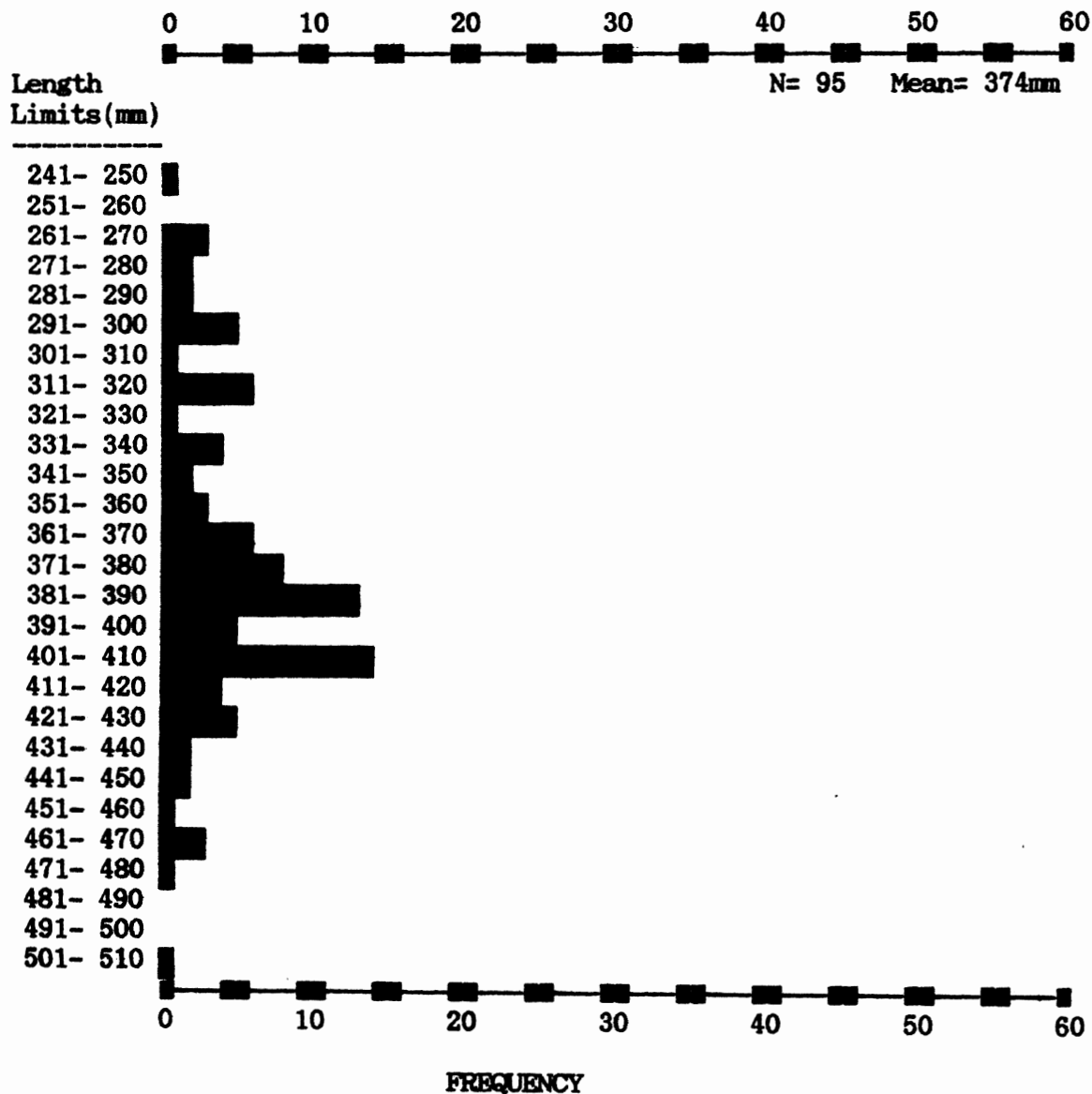


Figure 10. Length-Frequency Histogram for Bocaccio
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 4, 1983.

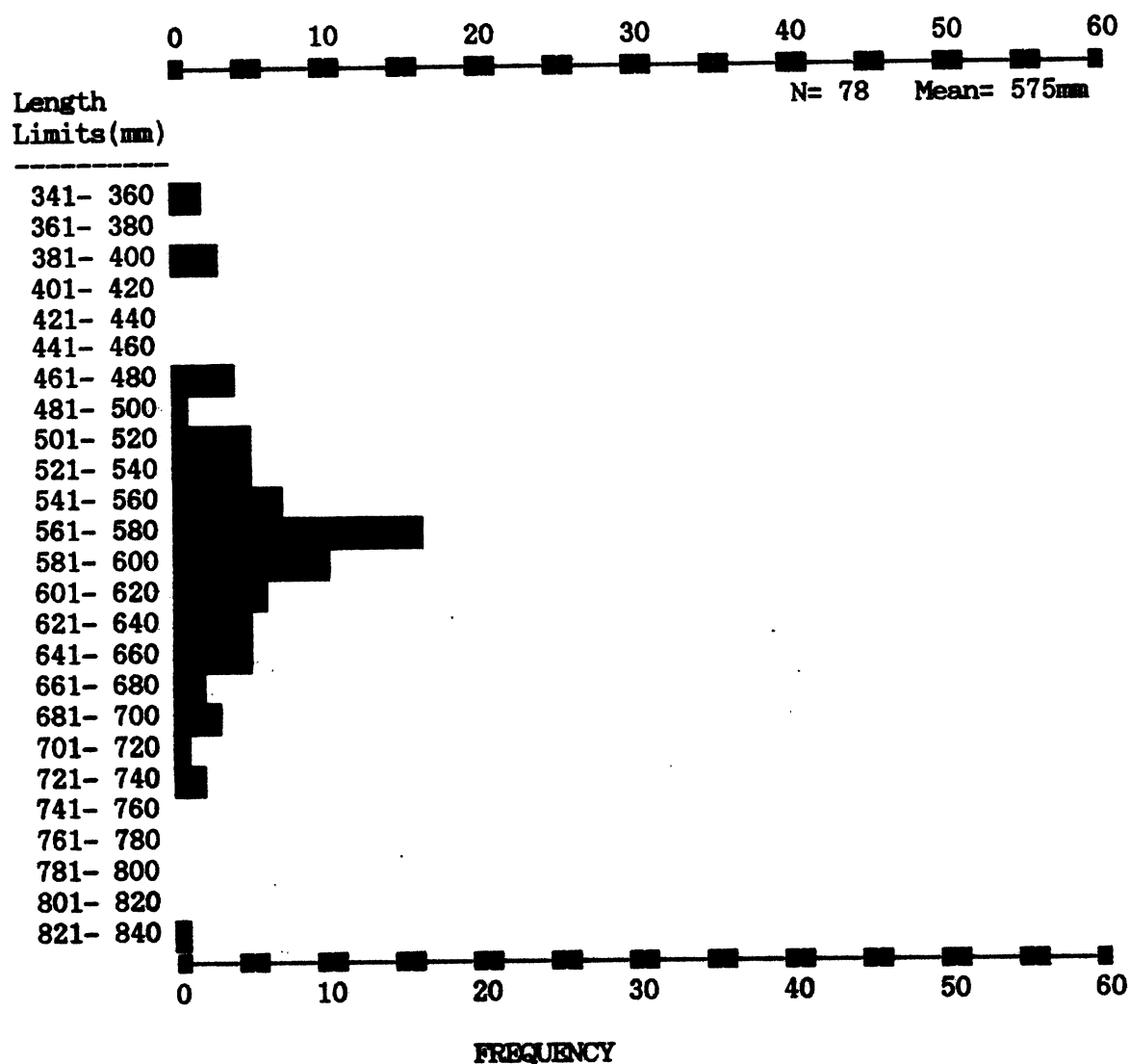


Figure 11. Length-Frequency Histogram for Lingcod
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 4, 1983.

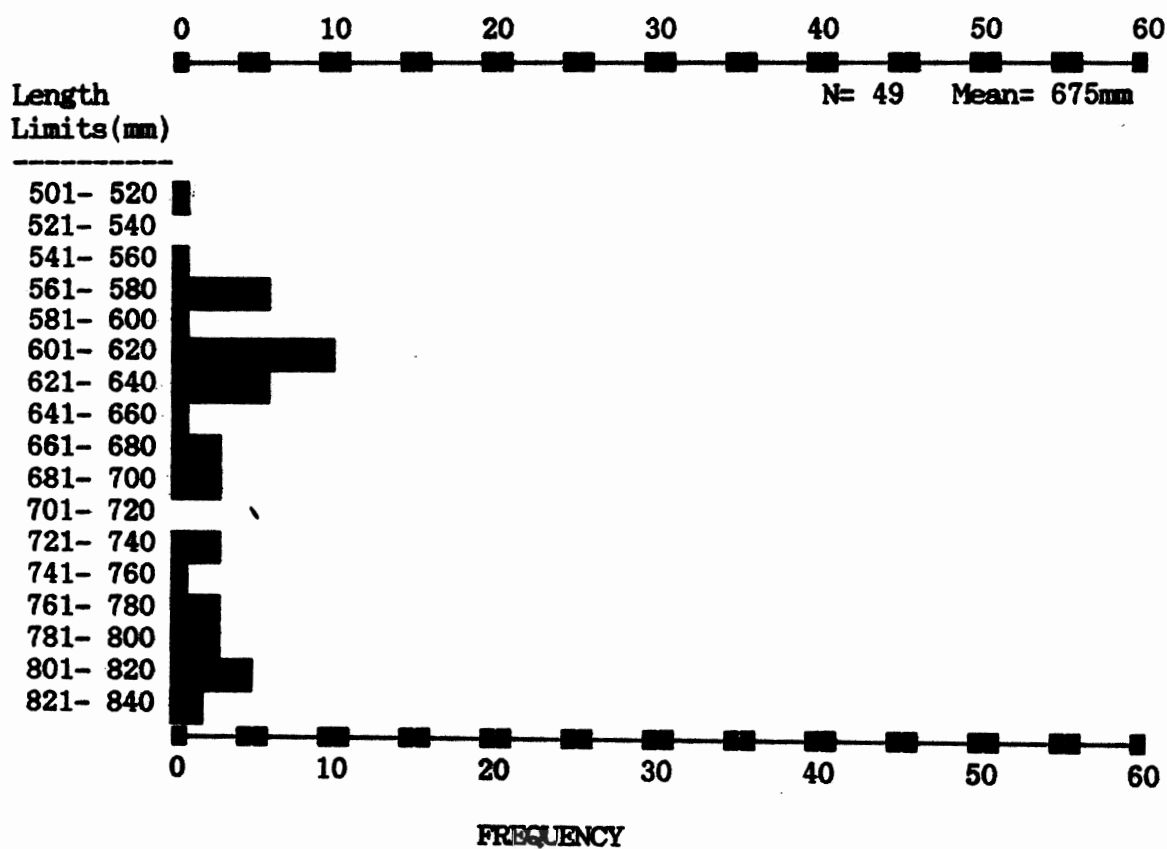


Figure 12. Length-Frequency Histogram for Blue Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 4, 1983.

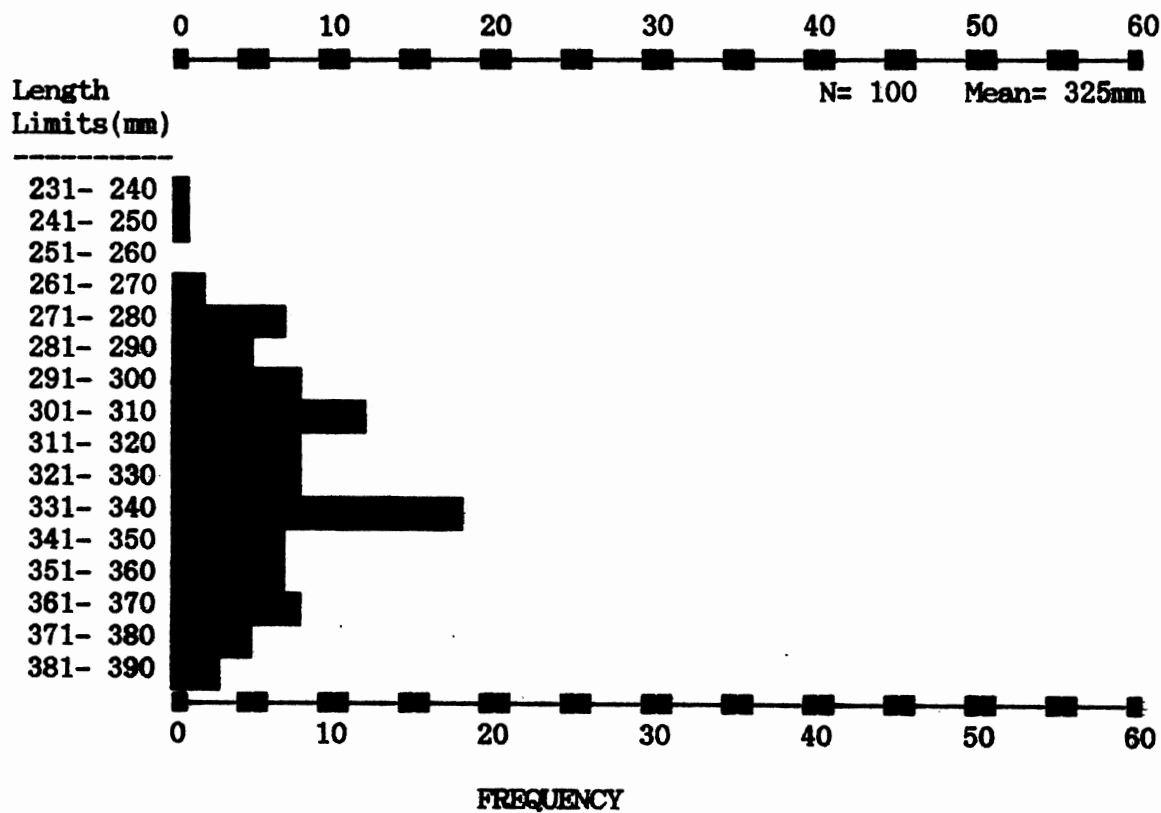


Figure 13. Length-Frequency Histogram for Yellowtail Rockfish
Taken by All CPFV Anglers Using Hook-and-Line Gear.
Area 4, Quarter 4, 1983.

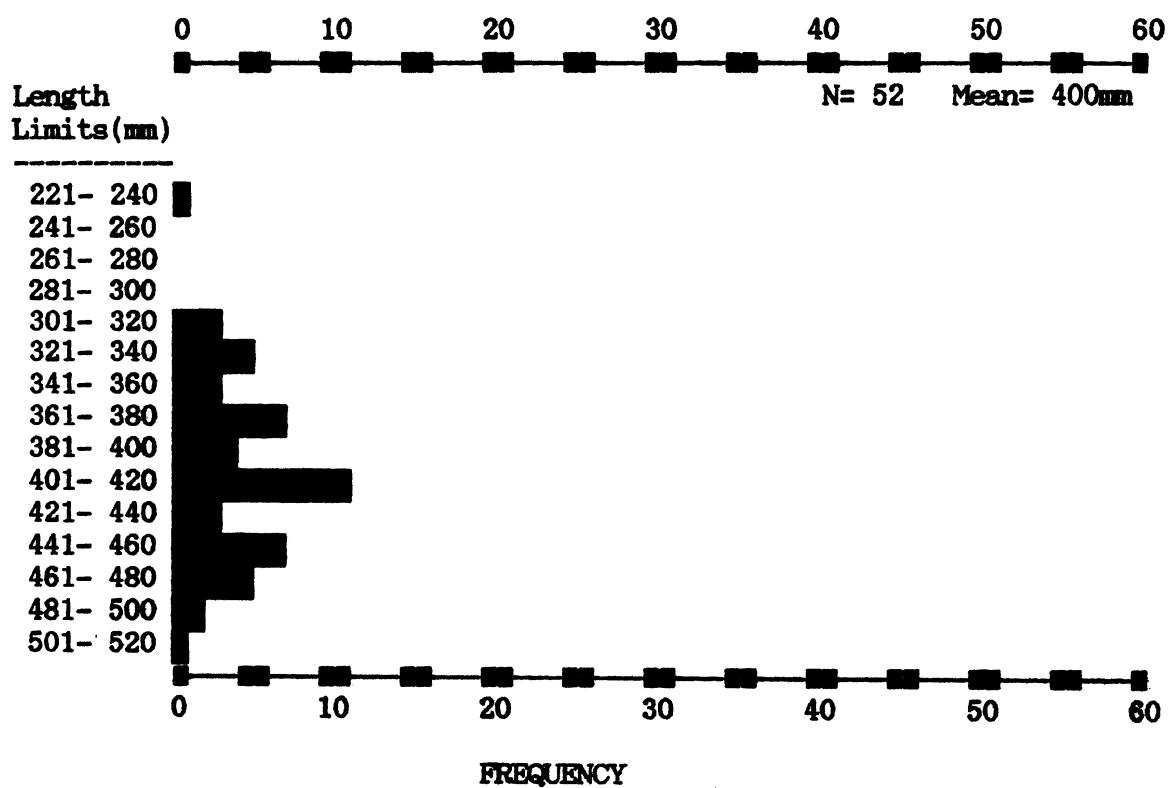


Table 82. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 130
 Total Hours Effort for Anglers Intercepted = 375.0
 Total Hours Still to Fish (Incomplete Trips) = 3.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Jacksmelt	1	133	33.8
Croaker, White	2	88	22.3
Mackerel, Pacific (Chub)	3	55	14.0
Surfperches	4	46	11.7
Surfperch, Walleye	5	14	3.6
Surfperch, Barred	6	14	3.6
Spiny Dogfish	7	8	2.0
Sculpin, Pacific Staghorn	8	8	2.0
Sardine, Pacific	9	6	1.5
Guitarfishes	10	4	1.0
Seaperch, Striped	11	4	1.0
Seaperch, White	12	3	0.8
Surfperch, Calico	13	2	0.5
Flounder, Starry	14	2	0.5
Unidentified Fishes	15	1	0.3
Queenfish	16	1	0.3
Perch, Shiner	17	1	0.3
Surfperch, Silver	18	1	0.3
Sanddab, Pacific	19	1	0.3
Halibut, California	20	1	0.3
Sole, Sand	21	1	0.3
Total		394	100

C. CPUE

Catch per Angler Day = 3.03 Catch per Angler Hour = 1.05

Table 83. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 130
 Total Hours Effort for Anglers Intercepted = 375.0
 Total Hours Still to Fish (Incomplete Trips) = 3.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Jacksmelt	1	81	32.0	0.18	14.96
Croaker, White	2	74	29.2	0.13	9.49
Mackerel, Pacific (Chub)	3	48	19.0	0.16	7.65
Surfperch, Barred	4	14	5.5	0.13	1.84
Surfperch, Walleye	5	13	5.1	0.13	1.71
Sardine, Pacific	6	6	2.4	0.12	0.71
Seaperch, Striped	7	4	1.6	0.24	0.96
Seaperch, White	8	3	1.2	0.19	0.57
Surfperches	9	2	0.8	0.14**	0.28
Surfperch, Calico	10	2	0.8	0.10	0.20
Queenfish	11	1	0.4	0.11	0.11
Perch, Shiner	12	1	0.4	0.00**	0.00
Surfperch, Silver	13	1	0.4	0.11	0.11
Sanddab, Pacific	14	1	0.4	0.00**	0.00
Flounder, Starry	15	1	0.4	0.16	0.16
Sole, Sand	16	1	0.4	0.00**	0.00
Total		253	100		38.74

C. CPUE

Catch per Angler Day = 1.95 Catch per Angler Hour = 0.67
 Kg per Angler Day = 0.30 Kg per Angler Hour = 0.10

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 84. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 130
 Total Hours Effort for Anglers Intercepted = 375.0
 Total Hours Still to Fish (Incomplete Trips) = 3.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Jacksmelt	1	5.36	29	35.4	24	0.18	288	34
Croaker, White	2	2.18	17	20.7	17	0.13	217	42
Mackerel, Pacific (Chub)	3	1.12	7	8.5	7	0.16	232	39
Seaperch, Striped	4	0.96	4	4.9	4	0.24	245	11
Surfperch, Walleye	5	0.92	7	8.5	7	0.13	201	12
Surfperch, Barred	6	0.92	7	8.5	7	0.13	190	21
Sardine, Pacific	7	0.71	6	7.3	6	0.12	252	9
Seaperch, White	8	0.19	1	1.2	1	0.19	250	0
Flounder, Starry	9	0.16	1	1.2	1	0.16	249	0
Surfperch, Silver	10	0.11	1	1.2	1	0.11	191	0
Queenfish	11	0.11	1	1.2	1	0.11	219	0
Surfperch, Calico	12	0.10	1	1.2	1	0.10	187	0
Total		12.82	82	100	77			

C. CPUE***

Catch per Angler Day = 0.63 Catch per Angler Hour = 0.22
 Kg per Angler Day = 0.10 Kg per Angler Hour = 0.03

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 85. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	29
Total Hours Effort for Anglers Intercepted	=	65.5
Total Hours Still to Fish (Incomplete Trips)	=	9.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Barred	1	22	53.7
Rockfish, Grass	2	6	14.6
Croaker, White	3	2	4.9
Perch, Black	4	2	4.9
Surfperch, Silver	5	2	4.9
Surfperch, Calico	6	2	4.9
Jacksmelt	7	1	2.4
Cabazon	8	1	2.4
Surfperch, Walleye	9	1	2.4
Perch, Pile	10	1	2.4
Seaperch, Rubberlip	11	1	2.4
Total		41	100

C. CPUE

Catch per Angler Day	=	1.41	Catch per Angler Hour	=	0.63
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Table 86. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	29
Total Hours Effort for Anglers Intercepted	=	65.5
Total Hours Still to Fish (Incomplete Trips)	=	9.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Barred	1	14	42.4	0.14	2.01
Rockfish, Grass	2	6	18.2	0.87	5.24
Croaker, White	3	2	6.1	0.25	0.50
Perch, Black	4	2	6.1	0.42	0.85
Surfperch, Silver	5	2	6.1	0.11	0.21
Surfperch, Calico	6	2	6.1	0.15	0.31
Jacksmelt	7	1	3.0	0.56	0.56
Cabazon	8	1	3.0	1.21	1.21
Surfperch, Walleye	9	1	3.0	0.14	0.14
Perch, Pile	10	1	3.0	0.69	0.69
Seaperch, Rubberlip	11	1	3.0	1.32	1.32
Total		33	100		13.03

C. CPUE

Catch per Angler Day	=	1.14	Catch per Angler Hour	=	0.50
Kg per Angler Day	=	0.45	Kg per Angler Hour	=	0.20

* Weight estimated from length-to-weight regression if available.

Table 87. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 29
 Total Hours Effort for Anglers Intercepted = 65.5
 Total Hours Still to Fish (Incomplete Trips) = 9.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Grass	1	5.24	6	19.4	6	0.87	334	38
Surfperch, Barred	2	1.72	12	38.7	11	0.14	195	25
Seaperch, Rubberlip	3	1.32	1	3.2	1	1.32	414	0
Cabazon	4	1.21	1	3.2	1	1.21	420	0
Perch, Black	5	0.85	2	6.5	2	0.42	295	1
Perch, Pile	6	0.69	1	3.2	1	0.69	347	0
Jacksmelt	7	0.56	1	3.2	1	0.56	408	0
Croaker, White	8	0.50	2	6.5	2	0.25	265	92
Surfperch, Calico	9	0.31	2	6.5	2	0.15	212	17
Surfperch, Silver	10	0.21	2	6.5	2	0.11	190	6
Surfperch, Walleye	11	0.14	1	3.2	1	0.14	205	0
Total		12.74	31	100	30			

C. CPUE***

Catch per Angler Day = 1.07 Catch per Angler Hour = 0.47
 Kg per Angler Day = 0.44 Kg per Angler Hour = 0.19

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 88. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	60
Total Hours Effort for Anglers Intercepted	=	247.9
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	164	33.3
Rockfish, Gopher	2	80	16.3
Mackerel, Pacific (Chub)	3	71	14.4
Croaker, White	4	33	6.7
Bonito, Pacific	5	24	4.9
Rockfish, Olive	6	20	4.1
Rockfishes (unidentified)	7	18	3.7
Rockfish, Brown	8	14	2.8
Rockfish, Yellowtail	9	11	2.2
Rockfish, Rosy	10	9	1.8
Rockfish, Starry	11	8	1.6
Rockfish, Copper	12	6	1.2
Rockfish, Vermillion	13	6	1.2
Lingcod	14	6	1.2
Jacksmelt	15	3	0.6
Rockfish, China	16	3	0.6
Rockfish, Black-and-yellow	17	3	0.6
Rockfish, Kelp	18	3	0.6
Cabezon	19	3	0.6
Shark, Leopard	20	1	0.2
Spiny Dogfish	21	1	0.2
Thornback	22	1	0.2
Rockfish, Canary	23	1	0.2
Jack Mackerel	24	1	0.2
Surfperches	25	1	0.2
Flounder, Starry	26	1	0.2
Total		492	100

C. CPUE

Catch per Angler Day = 8.20 Catch per Angler Hour = 1.98

Table 89. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	60
Total Hours Effort for Anglers Intercepted	=	247.9
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	144	35.0	0.30	43.55
Mackerel, Pacific (Chub)	2	69	16.8	0.32	21.81
Rockfish, Gopher	3	55	13.4	0.39	21.26
Croaker, White	4	27	6.6	0.24	6.55
Rockfish, Olive	5	20	4.9	0.46	9.14
Bonito, Pacific	6	19	4.6	3.17	60.32
Rockfish, Brown	7	14	3.4	0.65	9.08
Rockfish, Yellowtail	8	10	2.4	0.26	2.61
Rockfish, Rosy	9	9	2.2	0.21	1.86
Rockfish, Starry	10	8	1.9	0.63	5.06
Rockfish, Copper	11	6	1.5	0.86	5.14
Rockfish, Vermilion	12	6	1.5	1.27	7.63
Jacksmelt	13	3	0.7	0.50	1.51
Rockfish, China	14	3	0.7	0.31	0.92
Rockfish, Black-and-yellow	15	3	0.7	0.46	1.37
Rockfish, Kelp	16	3	0.7	0.41	1.24
Cabezon	17	3	0.7	1.81	5.44
Lingcod	18	2	0.5	2.52	5.04
Shark, Leopard	19	1	0.2	0.00**	0.00
Spiny Dogfish	20	1	0.2	4.21	4.21
Thornback	21	1	0.2	0.22	0.22
Rockfish, Canary	22	1	0.2	0.15	0.15
Jack Mackerel	23	1	0.2	0.13	0.13
Surfperches	24	1	0.2	0.00**	0.00
Flounder, Starry	25	1	0.2	2.30	2.30
Total		411	100		216.57

C. CPUE

Catch per Angler Day	=	6.85	Catch per Angler Hour	=	1.66
Kg per Angler Day	=	3.61	Kg per Angler Hour	=	0.87

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 90. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 60
 Total Hours Effort for Anglers Intercepted = 247.9
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Bonito, Pacific	1	60.32	19	5.2	19	3.17	609	68
Rockfish, Blue	2	40.22	133	36.2	75	0.30	267	32
Rockfish, Gopher	3	20.10	52	14.2	49	0.39	286	28
Mackerel, Pacific (Chub)	4	17.07	54	14.7	39	0.32	284	42
Rockfish, Brown	5	9.08	14	3.8	12	0.65	321	66
Rockfish, Olive	6	7.77	17	4.6	17	0.46	315	67
Rockfish, Vermilion	7	7.63	6	1.6	6	1.27	413	93
Rockfish, Copper	8	5.14	6	1.6	6	0.86	347	75
Rockfish, Starry	9	5.06	8	2.2	8	0.63	335	30
Lingcod	10	5.04	2	0.5	2	2.52	614	28
Croaker, White	11	4.85	20	5.4	11	0.24	275	28
Spiny Dogfish	12	4.21	1	0.3	1	4.21	1060	0
Cabezon	13	3.63	2	0.5	2	1.81	463	169
Rockfish, Yellowtail	14	2.61	10	2.7	10	0.26	258	40
Flounder, Starry	15	2.30	1	0.3	1	2.30	549	0
Rockfish, Rosy	16	1.86	9	2.5	9	0.21	233	10
Rockfish, Black-and-yellow	17	1.37	3	0.8	3	0.46	285	36
Rockfish, Kelp	18	1.24	3	0.8	3	0.41	303	13
Rockfish, China	19	0.92	3	0.8	3	0.31	256	38
Jacksmelt	20	0.50	1	0.3	1	0.50	395	0
Thornback	21	0.22	1	0.3	1	0.22	374	0
Rockfish, Canary	22	0.15	1	0.3	1	0.15	221	0
Jack Mackerel	23	0.13	1	0.3	1	0.13	229	0
Total		201.45	367	100	280			

C. CPUE***

Catch per Angler Day = 6.12 Catch per Angler Hour = 1.48
 Kg per Angler Day = 3.36 Kg per Angler Hour = 0.81

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 91. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	19
Total Hours Effort for Anglers Intercepted	=	76.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	200	48.0
Mackerel, Pacific (Chub)	2	80	19.2
Rockfish, Yellowtail	3	42	10.1
Rockfish, Rosy	4	39	9.4
Rockfish, Starry	5	11	2.6
Rockfishes (unidentified)	6	10	2.4
Rockfish, Copper	7	7	1.7
Rockfish, Olive	8	7	1.7
Rockfish, China	9	6	1.4
Rockfish, Gopher	10	6	1.4
Rockfish, Vermilion	11	3	0.7
Spiny Dogfish	12	2	0.5
Rockfish, Canary	13	2	0.5
Cabezon	14	1	0.2
Croaker, White	15	1	0.2
Total		417	100

C. CPUE

Catch per Angler Day	=	21.95	Catch per Angler Hour	=	5.49
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Table 92. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	19
Total Hours Effort for Anglers Intercepted	=	76.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	200	51.4	0.42	83.05
Mackerel, Pacific (Chub)	2	55	14.1	0.46	25.25
Rockfish, Yellowtail	3	40	10.3	0.25	9.92
Rockfish, Rosy	4	39	10.0	0.24	9.39
Rockfish, Starry	5	11	2.8	0.62	6.81
Rockfishes (unidentified)	6	10	2.6	0.41**	4.10
Rockfish, Copper	7	7	1.8	0.82	5.74
Rockfish, Olive	8	7	1.8	0.90	6.27
Rockfish, China	9	6	1.5	0.55	3.32
Rockfish, Gopher	10	6	1.5	0.29	1.76
Rockfish, Vermilion	11	3	0.8	2.04	6.13
Rockfish, Canary	12	2	0.5	0.59	1.18
Spiny Dogfish	13	1	0.3	3.52	3.52
Cabazon	14	1	0.3	2.88	2.88
Croaker, White	15	1	0.3	0.00**	0.00
Total		389	100		169.32

C. CPUE

Catch per Angler Day	=	20.47	Catch per Angler Hour	=	5.12
Kg per Angler Day	=	8.91	Kg per Angler Hour	=	2.23

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 93. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1983 for Quarter 4, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 19
 Total Hours Effort for Anglers Intercepted = 76.0
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Blue	1	74.75	180	57.0	112	0.42	297	36
Rockfish, Yellowtail	2	9.43	38	12.0	35	0.25	258	24
Rockfish, Rosy	3	9.39	39	12.3	35	0.24	245	10
Mackerel, Pacific (Chub)	4	7.80	17	5.4	14	0.46	317	52
Rockfish, Starry	5	6.81	11	3.5	11	0.62	326	54
Rockfish, Olive	6	6.27	7	2.2	7	0.90	399	63
Rockfish, Vermilion	7	6.13	3	0.9	3	2.04	503	33
Rockfish, Copper	8	5.74	7	2.2	7	0.82	340	77
Spiny Dogfish	9	3.52	1	0.3	1	3.52	1000	0
Rockfish, China	10	3.32	6	1.9	6	0.55	310	27
Cabazon	11	2.88	1	0.3	1	2.88	578	0
Rockfish, Canary	12	1.18	2	0.6	2	0.59	344	0
Rockfish, Gopher	13	1.18	4	1.3	3	0.29	262	17
Total		138.38	316	100	237			

C. CPUE***

Catch per Angler Day = 16.63 Catch per Angler Hour = 4.16
 Kg per Angler Day = 7.28 Kg per Angler Hour = 1.82

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 14. Length-Frequency Histogram for Blue Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 4, 1983.

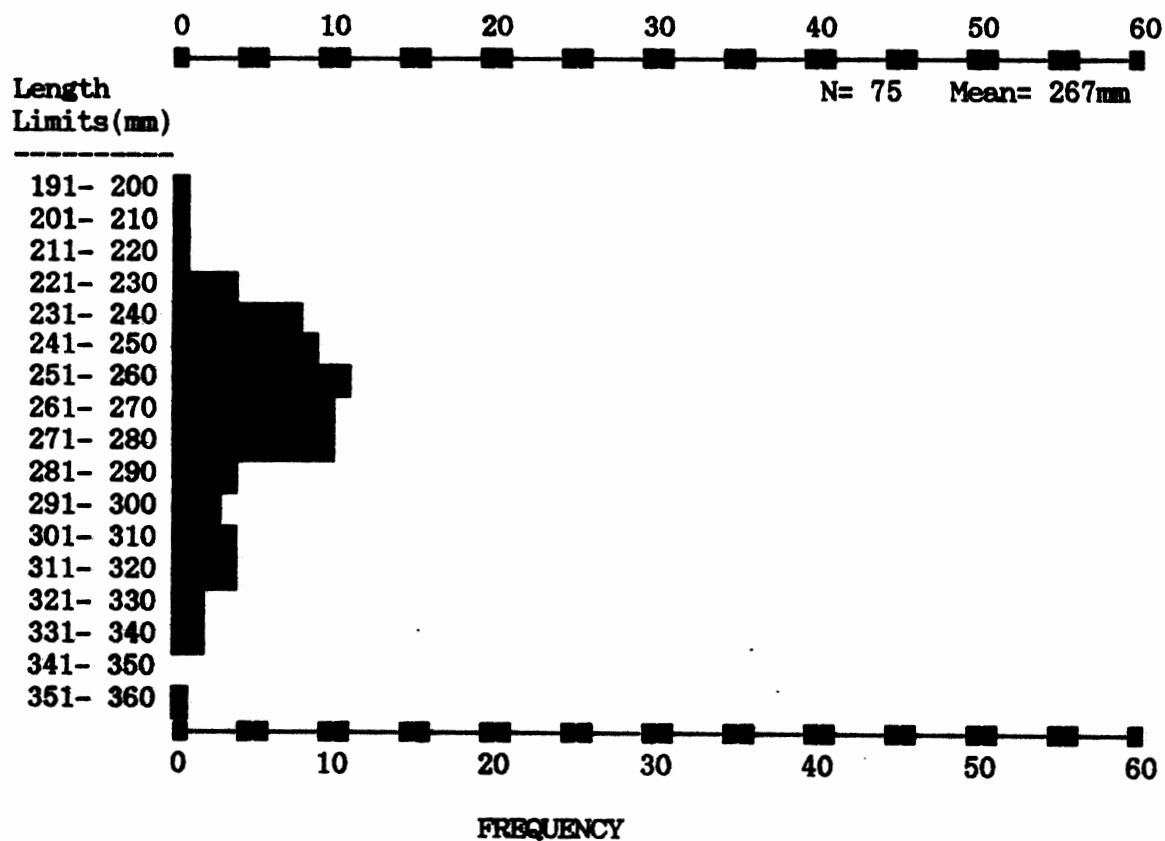


Figure 15. Length-Frequency Histogram for Gopher Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 4, 1983.

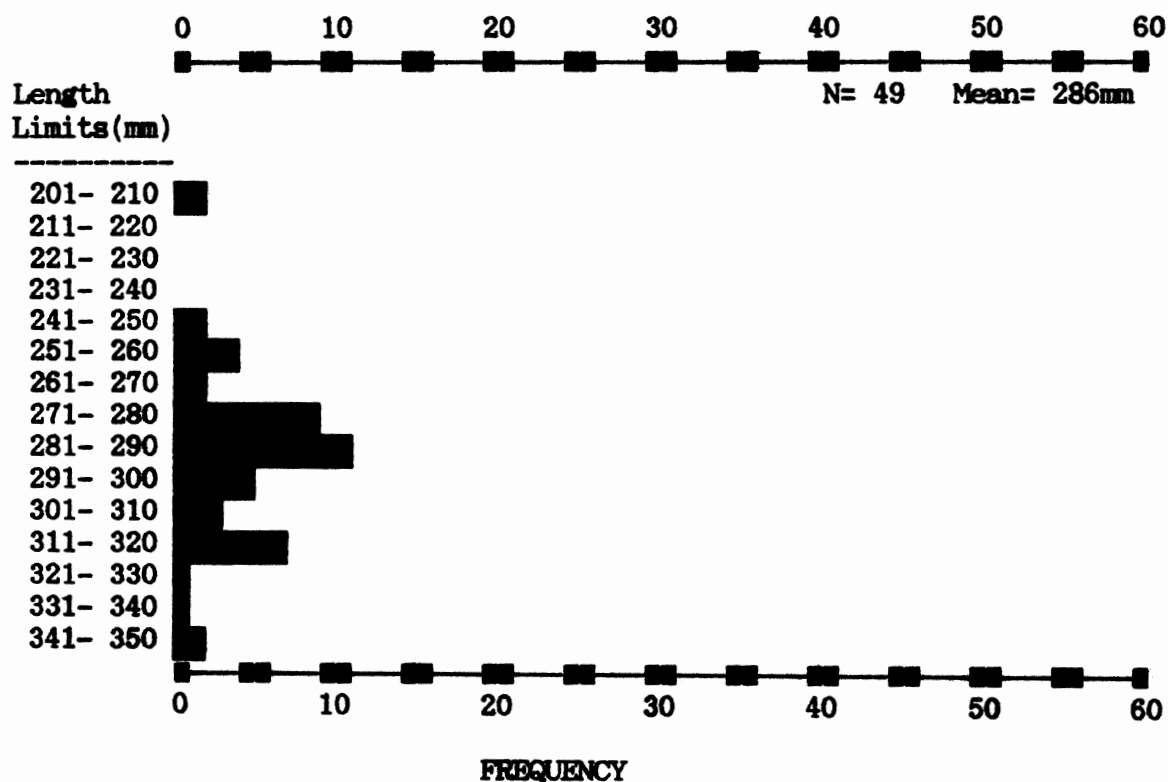


Figure 16. Length-Frequency Histogram for Blue Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 4, 1983.

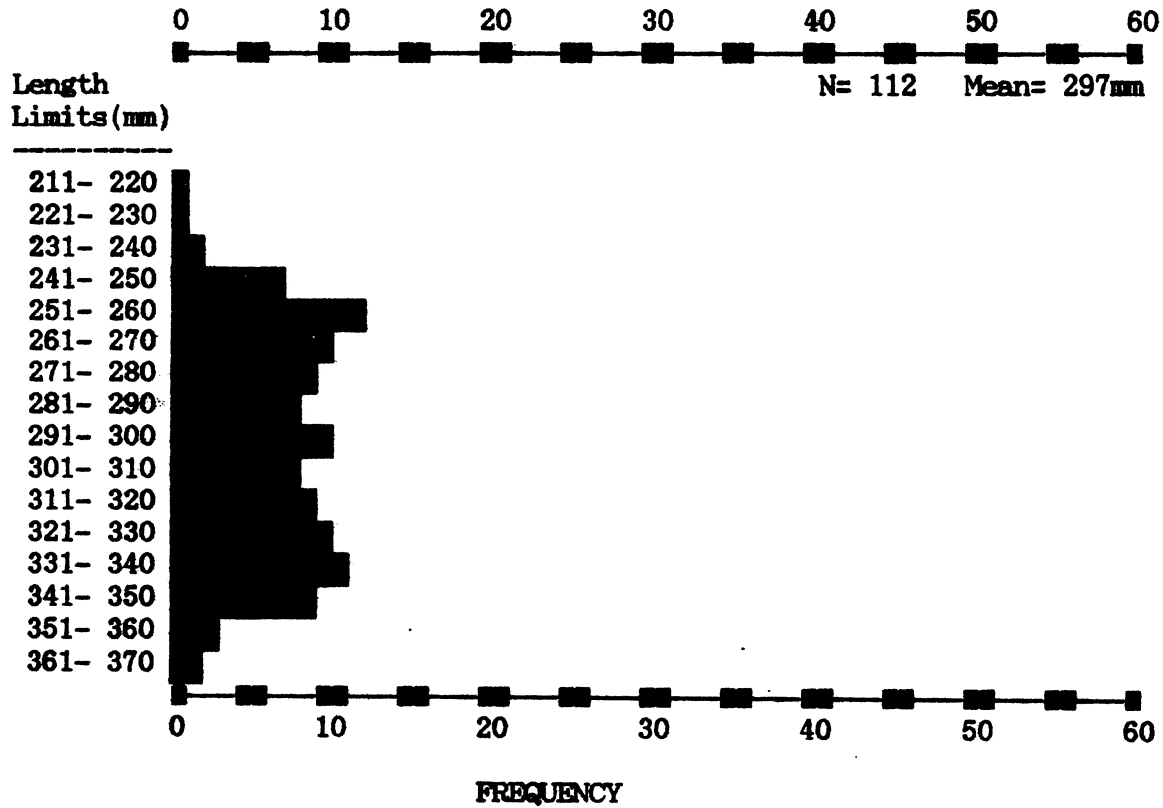


Figure 17. Length-Frequency Histogram for Rosy Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 4, 1983.

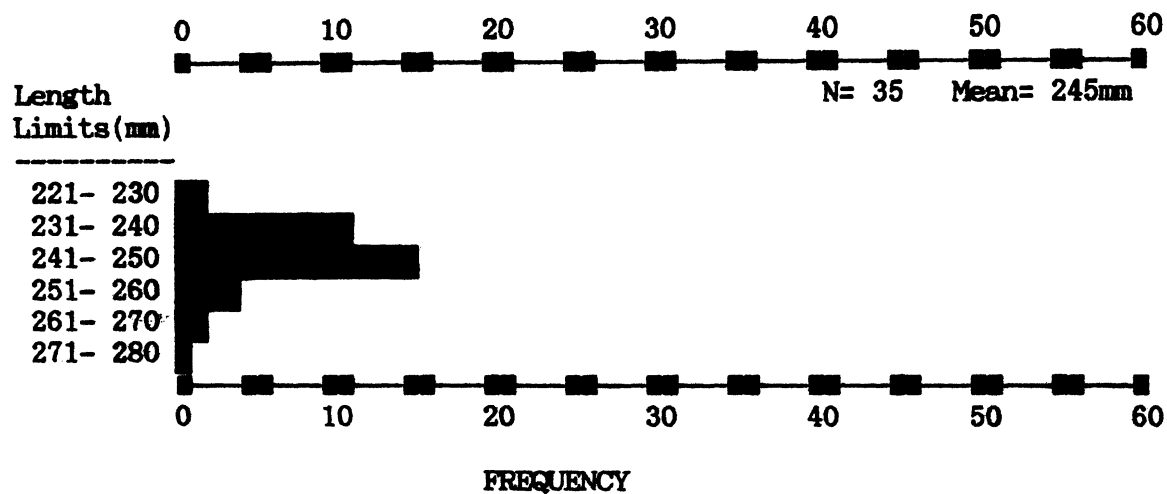
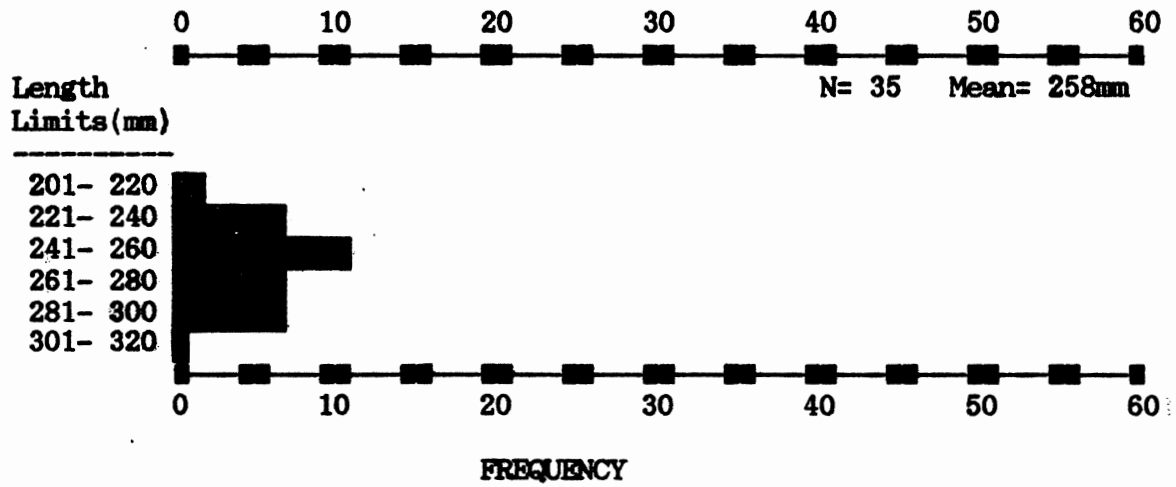


Figure 18. Length-Frequency Histogram for Yellowtail Rockfish
Taken by All CPFV Anglers Using Hook-and-Line Gear.
Area 5, Quarter 4, 1983.



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APPENDIX A

Pages 121 to 235 are on the attached microfiche on inside of back cover.

Appendix B. List of Common Names, Scientific Names, and Length-Weight Parameters for Fish from All Areas in 1983 for Quarter 4, Taken by All Mode Anglers Using All Types of Gear.

Common Name	Scientific Name	a	b
Goby, Yellowfin	<u>Acanthogobius flavimanus</u>	0.00001360000	2.89000
Sturgeon, Green	<u>Acipenser medirostris</u>	0.00000053086	3.34800
Sturgeon, White	<u>Acipenser transmontanus</u>	0.00000053086	3.34800
Sturgeons (general)	Acipenseridae		
Surfperch, Barred	<u>Amphistichus argenteus</u>	0.00001070000	3.10250
Surfperch, Calico	<u>Amphistichus koelzi</u>	0.00000469894	3.22700
Surfperch, Redtail	<u>Amphistichus rhodoterus</u>	0.00000469894	3.22700
Jacksmelt	<u>Atherinopsis californiensis</u>	0.00000098820	3.35360
Flounders, Lefteye	Bothidae		
Prickleback, Monkeyface	<u>Cebidichthys violaceus</u>	0.00000000000	0.00000
Sharks	Chondrichthyes		
Sanddab, Pacific	<u>Citharichthys sordidus</u>	0.00000142860	3.37080
Sculpins	Cottidae		
Perch, Shiner	<u>Cymatogaster aggregata</u>	0.00000473500	3.21000
Stingrays	Dasyatidae		
Perch, Black	<u>Embiotoca jacksoni</u>	0.00029100000	2.49640
Seaperch, Striped	<u>Embiotoca lateralis</u>	0.00001540000	3.01000
Surfperches	Embiotocidae		
Sculpin, Buffalo	<u>Enophrys bison</u>	0.00001790000	2.89600
Sole, Petrale	<u>Eopsetta jordani</u>	0.00000305800	3.23950
Shark, Soupfin	<u>Galeorhinus zyopterus</u>		
Croaker, White	<u>Genyonemus lineatus</u>	0.00000708500	3.08328
Greenlings (general)	Hexagrammidae		
Greenling, Kelp	<u>Hexagrammos decagrammus</u>	0.00002604300	2.89280
Greenling, Rock	<u>Hexagrammos lagocephalus</u>	0.00002604300	2.89280
Surfperch, Walleye	<u>Hyperprosopon argenteum</u>	0.00000035580	3.71700
Surfperch, Silver	<u>Hyperprosopon ellipticum</u>	0.00000469894	3.22700
Seaperch, Rainbow	<u>Hypsurus caryi</u>	0.00001535000	3.00700
Sole, Rock	<u>Lepidopsetta bilineata</u>	0.00000760300	3.09570
Sculpin, Pacific Staghorn	<u>Leptocottus armatus</u>	0.00001790000	2.89600
Halfmoon	<u>Medialuna californiensis</u>	0.00007367550	2.73384
Sunfish, Ocean	<u>Mola mola</u>	0.00000000000	0.00000
Bass, Striped	<u>Morone saxatilis</u>	0.00001068210	2.90671
Smoothhound, Brown	<u>Mustelus henlei</u>	0.00002089000	2.88000
Eagle Rays	Myliobatidae		
Ray, Bat	<u>Myliobatis californica</u>	0.00001054400	3.09289
Shark, Sevengill	<u>Notorynchus maculatus</u>	0.00000070600	3.49000
Salmon, Coho (Silver)	<u>Oncorhynchus kisutch</u>	0.00000944000	3.00000
Salmon	<u>Oncorhynchus</u> spp.		
Salmon, Chinook (King)	<u>Oncorhynchus tshawytscha</u>	0.00000944000	3.00000
Lingcod	<u>Ophiodon elongatus</u>	0.00001157000	2.99000
Smelts	Osmeridae		
Bass, Kelp	<u>Paralabrax clathratus</u>	0.00000271598	3.27000
Halibut, California	<u>Paralichthys californicus</u>	0.00000849000	3.03300
Seaperch, White	<u>Phanerodon furcatus</u>	0.00001366000	2.97800
Flounder, Starry	<u>Platichthys stellatus</u>	0.00000163000	3.34000
Thornback	<u>Platyrrhinoidis triseriata</u>	0.00000510900	2.96780
Flounders, Righteye	Pleuronectidae		

Appendix B (continued)

Common Name	Scientific Name	a	b
Flatfishes	Pleuronectiformes		
Shark, Blue	<u>Prionace glauca</u>	0.00000082655	3.20000
Sole, Sand	<u>Psettichthys melanostictus</u>	0.00000277100	3.26480
Skate, Big	<u>Raja binocularata</u>	0.00002428050	2.85496
Skates (general)	<u>Raja</u> spp.		
Skates	Rajidae		
Seaperch, Rubberlip	<u>Rhacochilus toxotes</u>	0.00003220500	2.90840
Perch, Pile	<u>Rhacochilus vacca</u>	0.00000925500	3.09900
Guitarfishes	Rhinobatidae		
Trout, Rainbow	<u>Salmo gairdnerii</u>	0.00000637000	3.06300
Trouts	Salmonidae		
Bonito, Pacific	<u>Sarda chiliensis</u>	0.00000762700	3.08960
Sardine, Pacific	<u>Sardinops sagax</u>	0.00000320000	3.15000
Mackerel, Pacific (Chub)	<u>Scomber japonicus</u>	0.00000136600	3.39360
Sierra, Gulf	<u>Scomberomorus concolor</u>		
Mackerels and Tunas	Scombridae		
Cabezon	<u>Scorpaenichthys marmoratus</u>	0.00008823220	2.72030
Rockfishes (unidentified)	Scorpaenidae		
Rockfish, Kelp	<u>Sebastes atrovirens</u>	0.00003277410	2.86200
Rockfish, Brown	<u>Sebastes auriculatus</u>	0.00002601290	2.93360
Rockfish, Gopher	<u>Sebastes carnatus</u>	0.00002047310	2.95730
Rockfish, Copper	<u>Sebastes caurinus</u>	0.00001648140	3.01800
Rockfish, Greenspotted	<u>Sebastes chlorostictus</u>	0.00002047310	2.95730
Rockfish, Black-and-yellow	<u>Sebastes chrysomelas</u>	0.00000446010	3.25650
Rockfish, Starry	<u>Sebastes constellatus</u>	0.00000531230	3.19500
Rockfish, Greenstriped	<u>Sebastes elongatus</u>	0.00000475820	3.15310
Rockfish, Widow	<u>Sebastes entomelas</u>	0.00000291200	3.25430
Rockfish, Yellowtail	<u>Sebastes flavidus</u>	0.00001130400	3.04020
Chilipepper	<u>Sebastes goodei</u>	0.00000283950	3.24380
Rockfish, Rosethorn	<u>Sebastes helvomaculatus</u>	0.00001678550	2.99430
Cowcod	<u>Sebastes levis</u>	0.00001851570	2.98070
Rockfish, Quillback	<u>Sebastes maliger</u>	0.00003000000	2.93000
Rockfish, Black	<u>Sebastes melanops</u>	0.00001965710	2.95480
Rockfish, Vermilion	<u>Sebastes miniatus</u>	0.00002677000	2.91650
Rockfish, Blue	<u>Sebastes mystinus</u>	0.00001624670	2.98849
Rockfish, China	<u>Sebastes nebulosus</u>	0.00000564040	3.20470
Rockfish, Tiger	<u>Sebastes nigrocinctus</u>	0.00000564040	3.20470
Rockfish, Speckled	<u>Sebastes ovalis</u>	0.00000324000	3.25050
Bocaccio	<u>Sebastes paucispinis</u>	0.00000583320	3.09410
Rockfish, Canary	<u>Sebastes pinniger</u>	0.00001051000	3.05560
Rockfish, Grass	<u>Sebastes rastrelliger</u>	0.00000575900	3.23500
Rockfish, Rosy	<u>Sebastes rosaceus</u>	0.00001678900	2.99430
Rockfish, Yelloweye	<u>Sebastes ruberrimus</u>	0.00001304370	3.05710
Rockfish, Flag	<u>Sebastes rubrivinctus</u>	0.00002346750	2.94310
Rockfish, Stripetail	<u>Sebastes saxicola</u>	0.00000706700	3.12010
Rockfish, Olive	<u>Sebastes serranoides</u>	0.00000521020	3.15410
Queenfish	<u>Seriphus politus</u>	0.00001549000	2.92200
Barracuda, Pacific	<u>Sphyræna argentea</u>	0.00000412016	2.98300
Spiny Dogfish	<u>Squalus acanthias</u>	0.00000189000	3.09000
Shark, Pacific Angel	<u>Squatina californica</u>		

Appendix B (continued)

Common Name	Scientific Name	a	b
Jack Mackerel	<u>Trachurus symmetricus</u>	0.00000331000	3.22320
Shark, Leopard	<u>Triakis semifasciata</u>	0.00002089000	2.88000
Unidentified Fishes	Unidentified Pisces		
Prickleback, Rock	<u>Xiphister mucosus</u>	0.00000000000	0.00000

Appendix C. List of Common and Scientific Names for Fish from Areas 3, 4, and Sub-area 097 in 1983 for Quarter 4 Corrected from Fork to Total Length Using Linear Regressions from Echeverria and Lenarz (1984), Karpov (In Press), and Van Hying (1951).

Common Name	Scientific Name
Sturgeon, Green	<u>Acipenser medirostris</u>
Sturgeon, White	<u>Acipenser transmontanus</u>
Surfperch, Barred	<u>Amphistichus argenteus</u>
Surfperch, Calico	<u>Amphistichus koelzi</u>
Surfperch, Redtail	<u>Amphistichus rhodoterus</u>
Jacksmelt	<u>Atherinopsis californiensis</u>
Perch, Shiner	<u>Cymatogaster aggregata</u>
Perch, Black	<u>Embiotoca jacksoni</u>
Seaperch, Striped	<u>Embiotoca lateralis</u>
Croaker, White	<u>Genyonemus lineatus</u>
Greenling, Kelp	<u>Hexagrammos decagrammus</u>
Surfperch, Walleye	<u>Hyperprosopon argenteum</u>
Surfperch, Silver	<u>Hyperprosopon ellipticum</u>
Seaperch, Rainbow	<u>Hypsurus caryi</u>
Sculpin, Pacific Staghorn	<u>Leptocottus armatus</u>
Bass, Striped	<u>Morone saxatilis</u>
Salmon, Coho (Silver)	<u>Oncorhynchus kisutch</u>
Salmon, Chinook (King)	<u>Oncorhynchus tshawytscha</u>
Lingcod	<u>Ophiodon elongatus</u>
Bass, Kelp	<u>Paralabrax clathratus</u>
Seaperch, White	<u>Phanerodon furcatus</u>
Seaperch, Rubberlip	<u>Rhacochilus toxotes</u>
Perch, Pile	<u>Rhacochilus vacca</u>
Rockfish, Brown	<u>Sebastes auriculatus</u>
Rockfish, Gopher	<u>Sebastes carnatus</u>
Rockfish, Copper	<u>Sebastes caurinus</u>
Rockfish, Greenspotted	<u>Sebastes chlorostictus</u>
Rockfish, Starry	<u>Sebastes constellatus</u>
Rockfish, Greenstriped	<u>Sebastes elongatus</u>
Rockfish, Widow	<u>Sebastes entomelas</u>
Rockfish, Yellowtail	<u>Sebastes flavidus</u>
Chilipepper	<u>Sebastes goodei</u>
Cowcod	<u>Sebastes levis</u>
Rockfish, Quillback	<u>Sebastes maliger</u>
Rockfish, Black	<u>Sebastes melanops</u>
Rockfish, Vermilion	<u>Sebastes miniatus</u>
Rockfish, Blue	<u>Sebastes mystinus</u>
Rockfish, China	<u>Sebastes nebulosus</u>
Rockfish, Speckled	<u>Sebastes ovalis</u>
Bocaccio	<u>Sebastes paucispinis</u>
Rockfish, Canary	<u>Sebastes pinniger</u>
Rockfish, Rosy	<u>Sebastes rosaceus</u>
Rockfish, Yelloweye	<u>Sebastes ruberrimus</u>
Rockfish, Stripetail	<u>Sebastes saxicola</u>
Rockfish, Olive	<u>Sebastes serranoides</u>
Rockfish, Whitebelly	<u>Sebastes vexillaris</u>

Table 38. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1983 for Quarter 4, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	21
Total Hours Effort for Anglers Intercepted	=	48.5
Total Hours Still to Fish (Incomplete Trips)	=	2.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperches	1	5	29.4	0.23**	1.15
Surfperch, Walleye	2	4	23.5	0.20	0.80
Flounder, Starry	3	4	23.5	0.21	0.82
Rockfish, Kelp	4	1	5.9	0.39	0.39
Perch, Black	5	1	5.9	0.33	0.33
Prickleback, Monkeyface	6	1	5.9	0.00**	0.00
Flounders, Lefteye	7	1	5.9	0.00**	0.21
Total		17	100		3.70

C. CPUE

Catch per Angler Day	=	0.81	Catch per Angler Hour	=	0.35
Kg per Angler Day	=	0.18	Kg per Angler Hour	=	0.08

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).